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ECONOMIC PRINCIPLES

A CASE BOOK

BY

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PREFACE

THIS book seeks to present the essential facts concerning a variety of economic situations, most of which have developed in the course of business, though a few, of necessity, are concerned with broader political or social relationships. The author is not one of those who believe that an obligation rests upon teachers to devise special means for making courses in economic theory "interesting" (whatever undergraduates may mean by that word); nor does he believe that the case system of instruction provides a ready solution to all problems of college teaching in economics. But those of us who have taught such courses recognize that case materials similar to those here presented do provide a setting of reality; and every teacher of economics knows that such a setting has a very strong appeal to the undergraduate who is making a first acquaintance with a formal course in economics. In this connection, a brief generalization of the late Professor Alfred Marshall's, made when he came to present his views on university training for the responsibilities of business (*Industry and Trade*, pp. 819-823), is pertinent: "Provided the studies themselves be of a truly hard character, the closer the relation to his after work, the more active is his (the student's) interest in them likely to be."

To facilitate use of the book by teachers of elementary courses in economics, references to a number of the more widely read books of "Principles" appear at the beginning of each chapter. These are listed on page 2 and are referred to in the general chapter headings, by the name of the author. Even a cursory examination of the table of contents discloses that the general outline follows very closely that of Professor Taussig, with whose book, as a tool of teaching, I am most familiar. But the body of economic doctrine which is suitable for presentation in an elementary course is such that an outline avowedly following that of Professor Taussig includes the essential topics discussed in other books of "Principles."

Teachers in collegiate schools of business who desire materials on Business Economics for the use of students already grounded

85,712

in economics will also find the book of help, I hope; for the present collection includes cases which are less technical than those presented in my *Problems in Business Economics* and less directly concerned with the business cycle as a phenomenon of industrial and commercial life. A few of the cases are drawn from the earlier book; but for the most part there is little duplication in the two collections.

The appearance of the present volume at this time is due mainly to the encouragement of two men—Mr. Shaw and Dean Donham. Both are keenly interested in developing the case method of instruction; and their generous interest made it possible for Mr. Gragg to devote the major part of the past year to the work of editing the cases here presented. Though many new cases have been included in this book, a majority have been drawn from the existing files of the Business School; and, since most of these were originally designed for somewhat different use, Mr. Gragg's editorial task has been no simple one. My own share in the work has been mainly that of outlining the scope of the book, of choosing cases to fill in that outline, and of advising from time to time on the more general problems of presentation. In preparing the manuscript for the press we have had the loyal and capable assistance of Miss Helen Eastman, while Miss E. F. Philbrook, who assisted me with my *Problems in Business Economics,* has also helped in the proof reading. Certain of our colleagues have generously granted permission to use cases gathered by them, or under their direction; and various persons outside the Harvard Business School have very graciously placed essential data at our disposal.

HOMER B. VANDERBLUE

Soldiers Field, August, 1927

CONTENTS

PREFACE iii

REFERENCES 2

BOOK I. ORGANIZATION OF BUSINESS

I

DIVISION OF LABOR 3

II

LOCALIZATION OF INDUSTRY 20

III

SCALE OF OPERATIONS 28

IV

OWNERSHIP OF BUSINESS 49

BOOK II. DEMAND AND SUPPLY

V

ASPECTS OF DEMAND 69

VI

ASPECTS OF SUPPLY 87

VII

COORDINATION OF SUPPLY AND DEMAND 110

VIII

JOINT COSTS AND JOINT DEMAND 130

IX

MONOPOLY PRICES 140

BOOK III. MONEY AND BANKING

X

USES AND CHARACTERISTICS OF MONEY 155

XI

The Gold Standard and Bimetallism 163

XII

Paper Money 180

XIII

The General Level of Prices 187

XIV

Banking Operations 202

XV

Banking System of the United States 222

XVI

Business Cycles 241

BOOK IV. INTERNATIONAL TRADE

XVII

Basis for Foreign Trade 259

XVIII

Balance of Payments 268

XIX

Bills of Exchange 283

XX

Tariff Problems 295

BOOK V. DISTRIBUTION OF INCOME

XXI

Agricultural Land 308

XXII

Urban Land 330

XXIII

Rent of Mines 346

XXIV
Interest 353

XXV
Profits 367

XXVI
Supply of Labor 398

XXVII
Wage Problems 416

BOOK VI. LABOR PROBLEMS

XXVIII
Unionism 425

XXIX
Agencies for Industrial Peace 444

XXX
Labor Participation in Management 470

BOOK VII. BUSINESS AND GOVERNMENT

XXXI
The Trust Movement 487

XXXII
Fair and Unfair Competition 515

XXXIII
Public Service Industry 533

XXXIV
Railroad Problems—Rates and Service 547

XXXV
Railroad Problems—Management 563

XXXVI
Government Ownership 587

XXXVII

PUBLIC FINANCE 600

XXXVIII

SOCIALISM AND CHANGES IN THE SOCIAL ORDER 629

INDEX 659

ALPHABETICAL LIST OF CASES 668

CASES

I. DIVISION OF LABOR

1. Adam Smith—The Division of Labor 3
2. Boston Manufacturing Company—Development of Factory System for Textile Production..... 5
3. Newille Company—Employment of Carpenters..... 10
4. Hutchinson Engineering Company—Special Department to Manufacture Nonstandardized Parts 12
5. Collington Company—Hiring Employees to Perform Special Tasks 14

II. LOCALIZATION OF INDUSTRY

1. Ajax Parts Company—Choosing Location for Manufacturing Plant 20
2. Walworth Manufacturing Company—Location of New Plant 23

III. SCALE OF OPERATIONS

1. Herrishoff-MacGregor Chocolate Company—Deciding on Scale of Operations 28
2. Sheldon Chain-Store Company—Establishment of Bakery 32
3. Atlantis River Company—Investment in Foundry 34
4. United States Steel Corporation—Plans for Increasing Scale of Operation 35
5. General Motors Corporation—Management Problems in Large-Scale Operations 42

IV. OWNERSHIP OF BUSINESS

1. Ordway Bakery Company—Organization of a Business Enterprise 49
2. Griffin & Near—Securities to Provide Capital for an Industrial Corporation 52

3. Loughredge Company—Trustees—Transactions in Securities 55

4. New York Stock Exchange—Investigation of Stock Operations 61

5. The Bell Telephone Securities Company—Sale of Securities 63

V. ASPECTS OF DEMAND

1. Hanlin Department Store—Reduced Price for Purchase of Two Similar Articles 69

2. Benton Cab Company—Analysis of Demand..... 71

3. Chocolate Candy Company—Local Decrease in Purchasing Power 73

4. California Fruit Growers' Exchange—Adjustment of Supply and Increasing Demand..... 74

5. Samoset Company—Partial Standardization to Modify Seasonal Demand 81

6. Ford Motor Company—Changing Demand 83

VI. ASPECTS OF SUPPLY

1. Richmond, New Hampshire—Investment in Lumber Production 87

2. Wolper Company—Adjustment of Costs to Selling Price.. 90

3. Fox Mills—Pricing Articles in Relation to Costs..... 91

4. Perham Company—Expenses under Varying Rates of Production 95

5. Eastern Association of Pig Iron Manufacturers—Costs of Producing Pig Iron 102

VII. COORDINATION OF SUPPLY AND DEMAND

1. Egg Production and Prices—Seasonal Influences of Supply and Demand 110

2. General Motors Corporation—Coordination of Supply and Demand 117

3. Pittsburgh Basing Point System—Pricing of Commodities Produced at Varying Costs 125

VIII. JOINT COSTS AND JOINT DEMAND

1. Crocker & Lang Veneer Company—Determining Prices on Joint-Cost Products 130
2. Natka Gas Company—Pricing and Marketing By-Product 132
3. Ardmore Machinery Company—Price Policies for Long-Term Contracts 135

IX. MONOPOLY PRICES

1. The Encyclopaedia Britannica—Introductory Offer of Copyrighted Books 140
2. Clayton China Company—Prices, Competition, and Scale of Output 142
3. Radio Instrument Company—Price Policy for Patented Instrument 145

X. USES AND CHARACTERISTICS OF MONEY

1. Money—Articles in Use as Money 155
2. United States—Coinage System, 1792-1860 156
3. United States—Types of Money in Use..... 159

XI. THE GOLD STANDARD AND BIMETALLISM

1. France—Bimetallic Currency System 163
2. United States—Trade Dollars 164
3. United States—Payment of Government Obligations in Coin 167
4. Elfin Mining Company—Operation of Gold Mine 169
5. England—Return to Gold Standard 176

XII. PAPER MONEY

1. France—Fiscal Crisis, 1926 180

XIII. THE GENERAL LEVEL OF PRICES

1. Tuckson Manufacturing Company—Index of Price Changes of Company's Products 187
2. Stound Equipment Company—Variations in Price Levels 190

3. Rand Kardex Company, Incorporated—Issue of Stabilized Bonds 196

XIV. BANKING OPERATIONS

1. Dominion Trust Company—Establishment of a Savings Department 202

2. Winchender Bank and Trust Company—Loaning at Interest or Discounting Customer's Notes 204

3. Midwest Company—Bank Credit and Open Market Borrowing 206

4. Truxford National Bank—Personal Factors in Making Loans 210

5. Lindley, Brandt & Flint—Investments for a National Bank 213

6. Farmers Exchange Bank—Agricultural Loans..... 218

XV. BANKING SYSTEM OF THE UNITED STATES

1. Suffolk Bank of Boston—Banking Practice with Note Issue 222

2. Trinity National Bank—Choice between Charter as National Bank and as State Bank 226

3. Federal Reserve Policy—Changing the Rediscount Rate 233

XVI. BUSINESS CYCLES

1. Garfield National Bank—Commercial Banking and the Business Cycle 241

2. Bethlehem Steel Corporation—Cambria Plant—Iron Production and the Business Cycle 250

XVII. BASIS FOR FOREIGN TRADE

1. Castern Company—Importation of Philippine Embroidery and Hats 259

2. Lamont Machinery Company—Sale of Machinery in Colombia 264

XVIII. BALANCE OF PAYMENTS

1. United States—International Balance of Trade..... 268

XIX. BILLS OF EXCHANGE

1. Hamlen Upholstery Company—Financing Exports 283
2. The Porter National Bank—Bullion Shipments 286
3. Anglo-Asiatic Bank—Foreign Exchange Arbitrage Transaction 289
4. Quaboag Hosiery Company—Quoting Prices under Varying Exchange Rates 291
5. Sapulpa Company—Purchasing in Foreign Country Having Depreciated Currency 293

XX. TARIFF PROBLEMS

1. Methanol—Change in Import Duty 295
2. Garnette Company—Importation and Protective Tariff.. 303
3. Hulwin & Tompkins—Export of Cotton Goods to Brazil 305

XXI. AGRICULTURAL LAND

1. New Jersey Potato Growers—Principle of Diminishing Returns 308
2. Venice, Florida—Promoting the Development of a New City and Agricultural Community 312
3. Fairway Farms—Bringing Submarginal Land into Use.... 319

XXII. URBAN LAND

1. Gabler & Company—Location of Retail Stores..... 330
2. National Association of Building Owners and Managers 332
3. Sunman Company—Selection of Site and Construction of Warehouse 337
4. S. W. Straus & Company—Construction of Suburban Apartment Houses 340

XXIII. RENT OF MINES

1. Alden Coal Company—Price Policy of Coal Mining Company 346
2. Hartwick Mining Company—Consolidation of Copper Mines 348

XXIV. INTEREST

1. Arnold Wainwright Company—Purchase of Machinery 353
2. Illinois Central System—Receipts and Expenditures 356
3. Robert L. Hunt, Investor—Investment of Savings 358
4. Mayo Company—Installment Sales 363

XXV. PROFITS

1. Ilman Company—Contract Work 367
2. Chicago Board of Trade—Operation of Commodity Exchange 370
3. Devonshire Company—Speculative Purchases 377
4. Atlantic Fisheries Company—Insurance of Fishing Fleet 381
5. Beecher Saw Company—Payment of Executives..... 385
6. Kittell & Company—Insolvency and Reorganization 388

XXVI. SUPPLY OF LABOR

1. Roger Bacon Company—Improving Labor Supply 398
2. Sharey Company—Employment of Women on Factory Tasks 404
3. Tuckerman Machinery Company—Apprentices to Learn Foundry Work 408
4. National Association of Window Glass Manufacturers, *et al.*, *v.* United States—Labor Shortage..... 413

XXVII. WAGE PROBLEMS

1. Harnett Generator Company—Wage Plan to Increase Output 416
2. MacBride Electric Company—Group Piece Rates 420
3. Tareyton Milling Company—Promotion of Workman to More Highly Paid Task..... 422

XXVIII. UNIONISM

1. Barnes *v.* Berry—Action to Prevent Strike..... 425
2. Tristate Transit Company—Amount of Wage Increase Protested by Union Agent 429

3. Rochester Men's Clothing Industry—Agreement by Employers' Association to Cooperate with Labor Union.. 431

4. Dorchy *v.* State of Kansas—The Right to Strike..... 440

5. Mann Company—Placing Union Label on Product..... 442

XXIX. AGENCIES FOR INDUSTRIAL PEACE

1. Langley Company—Workmen's Compensation Act..... 444

2. Simplex Wire and Cable Company—Plan for Sharing Profits with Employees 447

3. Thrasher Cotton Mills Company—Sale of Common Stock to Employees 457

4. Western Clock Company—Adoption of Pension Plan.... 460

5. Williamson Company—Employee Housing Policy..... 466

6. Chillicothe Paper Box Company—Output under Minimum Wage Law 468

XXX. LABOR PARTICIPATION IN MANAGEMENT

1. Alden Steel Company—Wage Negotiations with Plant Assembly 470

2. Elmore Company—Jurisdiction of Employee Representative Bodies 483

XXXI. THE TRUST MOVEMENT

1. United States *v.* American Can Company, *et al.*—Suit for Dissolution on Allegation of Monopoly 487

2. Maple Flooring Manufacturers' Association, *et al.*, *v.* United States—Trade Association Activities Not in Restraint of Commerce..... 507

XXXII. FAIR AND UNFAIR COMPETITION

1. Federal Trade Commission *v.* Beech-Nut Packing Company—Price Maintenance Methods as Unfair Competition 515

2. Federal Trade Commission *v.* Winsted Hosiery Company 525

3. William R. Warner & Company *v.* Eli Lilly & Company 528

XXXIII. PUBLIC SERVICE INDUSTRY

1. Lakeside Street Railway Company—Increased Fare Approved by Public Utility Commission 533

2. Moret Utilities Company—Sale of Stock to Customers .. 536

3. New Jersey Board of Public Utility Commissioners—Fair Return 539

4. City of Milwaukee—Relation of Fair Return to Cost of Service 544

XXXIV. RAILROAD PROBLEMS—RATES AND SERVICE

1. President Hadley's Oyster Case—Discrimination between Local Points of Shipment 547

2. Standard Oil Company—Discrimination between Shippers 548

3. Norfolk Hide & Metal Company *v.* Atchison, Topeka & Santa Fe Railway Company, *et al.* 550

4. Silk Association of America *v.* Pennsylvania Railroad Company—Rates on Silk 553

5. Alabama-Georgia Syrup Company *v.* Alantic Coast Line Railroad Company, *et al.*—Reasonable Rate..... 556

6. Powhatan Valley Railroad—Noncompetitive Rate 558

XXXV. RAILROAD PROBLEMS—MANAGEMENT

1. Dodge City & Cimarron Valley Railway Company—Construction of Extension 563

2. Walworth Railroad—Improving Freight-Train Operations 566

3. Nickel Plate Unification—Denial of Application 571

4. Cement, Tolenas & Tidewater Railroad Company—Value for Rate-Making Purposes 582

XXXVI. GOVERNMENT OWNERSHIP

1. Detroit, Michigan—Municipal Ownership *vs.* Service at Cost 587

2. Alabama Power Company—Option of Purchase by United States 598

XXXVII. PUBLIC FINANCE

1. United States—National Income and Public Finance..... 600
2. Sales Tax—Proposed Plan 614
3. Philadelphia, Pennsylvania—Assessment of Properties for Benefits Accruing from Public Improvements..... 618
4. Inheritance Tax—Private Estate Filed for Probate..... 624
5. Capital—Taxation Policies 626

XXXVIII. SOCIALISM AND CHANGES IN THE SOCIAL ORDER

1. Samuel Dennis—State Aid to Promote Manufacture..... 629
2. The Oneida Community, Ltd.—Labor Policy.....630
3. Russia—Experiments with Socialism 639
4. Burns *v.* United States—Criminal Syndicalism..... 651

ECONOMIC PRINCIPLES

A CASE BOOK

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I

DIVISION OF LABOR

Black, 154-181, 262-270; Bye, 33-42; Clay, 21-27, 38-53; Edie, 52-57; Ely, 15-17, 118-122; Fairchild, I, 42-83; Gide, 150-161, 172-176; Marshall, 246-266; Rufener, 34-54; Seager, 17-20, 153-158; Seligman, 85-96, 292-301; Taussig, I, 30-47; Turner, 65-66.

1. Adam Smith[1]

THE DIVISION OF LABOR

The greatest improvements in the productive powers of labour, and the greater part of the skill, dexterity, and judgment, with which it is anywhere directed, or applied, seem to have been the effects of the division of labour.

The effects of the division of labour, in the general business of society, will be more easily understood, by considering in what manner it operates in some particular manufactures. It is commonly supposed to be carried furthest in some very trifling ones; not perhaps that it really is carried further in them than in others of more importance: but in those trifling manufactures which are destined to supply the small wants of but a small number of people, the whole number of workmen must necessarily be small; and those employed in every different branch of the work can often be collected into the same workhouse, and placed at once under the view of the spectator. In those great manufactures, on the contrary, which are destined to supply the great wants of the great body of the people, every different branch of the work employs so great a number of workmen, that it is impossible to collect them all into the same workhouse. We can seldom see more, at one time, than those employed in one single branch. Though in such manufactures, therefore, the work may really be divided into a much greater number of parts, than in those of a more trifling nature, the division is not near so obvious, and has accordingly been much less observed.

To take an example, therefore, from a very trifling manufacture, but one in which the division of labour has been very often taken notice of, the trade of a pin-maker: a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the inven-

[1] Adam Smith, *Wealth of Nations*, Book I, chap. i.

tion of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire; another straights it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind, where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each of them have made twenty, perhaps not one pin in a day; that is, certainly, not the two hundred and fortieth, perhaps not the four thousand eight hundredth, part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations.

In every other art and manufacture, the effects of the division of labour are similar to what they are in this very trifling one, though, in many of them, the labour can neither be so much subdivided, nor reduced to so great a simplicity of operation. The division of labour, however, so far as it can be introduced, occasions, in every art, a proportionable increase of the productive powers of labour. The separation of different trades and employments from one another seems to have taken place in consequence of this advantage. This separation, too, is generally carried furthest in those countries which enjoy the highest degree of industry and improvement; what is the work of one man, in a rude state of society, being generally that of several in an improved one. In every improved society, the farmer is generally nothing but a farmer; the manufacturer, nothing but a manufacturer.

1. If it required a long time for each workman to learn to perform his particular task, what would have been the effect upon the whole group if any one man had been absent?

2. Was each workman in the shop more independent, or less, than if he had made pins by himself?

3. For which tasks would you expect to find machinery first invented to replace handwork: those tasks to which one man applied himself continuously, or those between which one man divided his efforts?

2. Boston Manufacturing Company

Development of factory system for textile production

In 1813 Mr. Nathan Appleton, a Boston merchant, had an opportunity to buy $10,000 of stock in the newly incorporated Boston Manufacturing Company. This company, chartered by the state, planned to undertake in a new factory the complete manufacture of cotton goods, including the weaving of the cloth. For this last operation, an attempt would be made to use power looms in the factory, while previously it had been customary for cotton manufacturers to carry the processes only through the spinning operations, putting the spun yarn out among near-by households to be woven on hand-driven looms. The weavers usually were paid a fixed amount per yard of cloth woven.

The success of the new undertaking was highly uncertain, because of the many difficulties previously met in steps to develop the cotton-manufacturing industry both in the United States and in England. The growth of cotton manufacture in England had brought with it increasingly strict laws in that country intended to prevent other countries from using the technical machines and methods developed. The regulations were strengthened in 1781 and 1782, so that it was extremely difficult to obtain from England any machines, drawings, or workmen who had knowledge of newly developed processes.

In the American colonies, consequently, the technical development of textile manufacturing had been impeded. During that period, moreover, the population was given primarily to agriculture and commerce, and depended for manufactures upon other countries. Cotton was raised in Maryland and Delaware in 1736 as an ornamental crop; later, individual families raised, spun, and wove it for their own uses. Cotton goods were imported, however, from England and India, and to a lesser extent from Europe.

Several of the colonies from the first encouraged the invention and perfection of labor-saving machines. Massachusetts, from 1640 on, allowed bounties and land grants to stimulate mechanical improvements.

These efforts met with moderate success. In 1748 the carding cylinder had been obtained from England; between 1768 and 1775, models of the spinning jenny had been secured. As early as 1774, Alexander Hamilton saw the possibilities of an American cotton-manufacturing industry and advocated support of it.

In 1775 the United Company of Philadelphia, probably the first joint-stock company in America, was organized for the promotion of domestic manufactures, and the making of woolens, linens, and cottons.

After the close of the Revolutionary War, the colonies, which had complained of the English restrictions on trade and commerce, investigated intensively various branches of manufactures. Of special interest was the progress of the English cotton industry.

In 1786 Tench Coxe, an American student of finance and public economy, learned of newly developed labor-saving devices in England. In the same year Massachusetts granted an advance of 200 pounds sterling to Robert and Alexander Barr, who had come from Scotland by invitation. This grant was to enable them to perfect machines for carding, roping, and spinning wool and cotton. By similar means, the Massachusetts legislature had obtained models of machines designed by Arkwright and others, but designs were then imperfect.

Although at that time the chief supplies of raw cotton were imported for commercial purposes from Surinam and the West Indies, and were valued at 40 cents a pound, the southern states were slow to realize the advantages of cotton growing. Madison predicted, however, that some day the United States would be an important cotton producer, and the failure of the rice and indigo crops of Georgia and South Carolina, in 1789, focused attention more widely on cotton raising.

In 1790 an important advance in the industry came when Samuel Slater, a former workman in Arkwright's English mills, erected at Pawtucket, Rhode Island, a cotton mill modeled on the then current practices in England. Slater was able to reconstruct from memory the essential details of the Arkwright ma-

chinery, and the new mill was successful. The invention of the cotton gin in 1793, by Eli Whitney, and the subsequent distribution of his and rival gins, assured a rapidly increasing supply of domestic cotton. Many of Slater's workmen left his employ to assist in setting up similar machinery in factories in other parts of New England. Water power for the spinning machinery was essential for those enterprises.

By 1807 there were 4,000 spindles[1] in United States factories; by 1812 Massachusetts had 20 factories with 17,000 spindles, and Rhode Island had 33 factories with 30,500 spindles. Until then the factories had been planned merely to prepare and spin the raw material; the last step, weaving, still was performed for the most part as a household industry. Mills, such as those of Slater, "put out" spun yard to neighborhood families which would weave the yarn into cloth either for themselves or for sale. Practically every farmhouse was supplied with one or more hand looms for weaving.

During the years after 1807, furthermore, many improvements were designed for household machines, because of the uncertainties of trade with England and France. Families commonly joined in the purchase of sets of carding, spinning, and weaving machines. For $150, equipment could be bought adequate to produce a total of about 2,000 yards annually of linen, cotton, and woolen apparel. For each unit, the work of two women and two girls was required. Probably four-fifths of the laboring classes were clothed wholly in household manufactures, in the production of which the women of those families were occupied.

The managers of various textile factories had attempted to introduce power looms. It seemed desirable to produce woven goods by factory processes in order to assure regularity of output and to overcome the dependence upon numerous individual weavers as outlets for the spun yarns. But the weavers, especially the women, were averse to exchanging the liberties of selecting their own hours and methods, which they enjoyed at home, for the discipline and regularity required for factory work. Apparently the only method of bringing about the change was to develop

[1] An essential part of spinning machinery is the spindle, on which the fiber is twisted and wound into yarn in preparation for the weaving process. The spinning capacity of a cotton mill is dependent upon, and rated according to, the number of spindles in the mill. Early spindles were revolved by hand, foot, or water power.

power looms, several of which could be tended by one factory employee, and thus to reduce the cost of production below that at which household work would be profitable.

From 1806 to 1809, therefore, experiments were made at Exeter, New Hampshire, and at Dedham, Massachusetts, to perfect power looms. Such apparatus, however, still required one attendant at each loom, and no saving was possible.

As a consequence, Mr. Francis Lowell visited Scotland and England, where he studied at first hand the methods and machines used in the principal cotton factories in England and Scotland. He returned to the United States in 1813. United States manufactures had by then progressed to such an extent that city stores were able to offer for sale American products, such as iron and brass tools, glasswares, spirits, saws, knives, combs, lamps, nails, and many others. Textiles alone seemed lacking in substantial quantities, among the goods made wholly in factories.

On February 23, 1813, the Massachusetts legislature chartered the Boston Manufacturing Company, to make cotton, woolen, or linen goods; to conduct business at Boston, Suffolk County, or within 15 miles, or at any other place or places, not to exceed four. The capital was authorized at $400,000, but only $100,000 was to be raised until after the experiment was given a fair trial.

It was this project in which Mr. Appleton was invited to invest. The proposal was: to establish the factory on a water-power site at Waltham, about 14 miles from Boston, and to perfect and install a power loom of the type about which Mr. Lowell had informed himself. If this loom should prove a success, the venture gave promise of large subsequent profits. The other mills which had attempted the use of power looms in the United States, however, had failed. Even in England, where the experiments had been made extensively, there had been many failures, especially in 1788, 1793, 1799, 1803, and 1810. While no such opposition from employees was expected in the United States as had occurred in England, it was uncertain how many skilled laborers were available. The new company had to face the possible disadvantages of future foreign competition, inferior machinery, lack of skilled labor supply, and marketing difficulties. Costs were uncertain, and the attitude of consumers, while probably favorable to the American product, could not be determined exactly.

On the other hand, there were reasons for expecting the ven-

ture to prove sound. A definite tariff policy for the protection of "infant industries" was likely to be effected. At the close of the Revolutionary War, manufacturers had petitioned for protective rates because of the flood of European merchandise imported at low prices, with, as was stated, resultant lack of employment, accumulation of foreign debts, depreciation of real estate values, and injury to trade and manufactures. The issue of protection was discussed fully at the first Federal Congress in 1789. There the manufacturers from Pennsylvania, New York, Massachusetts, and Connecticut advocated duties which would allow the sale of domestic materials at a profit in competition with imports. The agricultural states were opposed to such measures, and compromises resulted. Specific duties were imposed on more than 30 articles; ad valorem rates varied from 7½% to 15% on a few materials, and a 5% duty was imposed on all articles not enumerated. The average rate of duty on an ad valorem basis was about 8½%. Cotton textiles were not included specifically, though cotton cards were.

The general purpose of the compromise rates apparently was more to secure necessary revenues for the government than permanently to protect local industries. There was sufficient support for the latter course, however, to make probable a specific duty on cotton manufactures, if such a policy should seem necessary. Mr. Lowell was prepared, if necessary, to appear before Congress to urge adequate duties on competitive imports.

Public roads and canals, furthermore, were being extended rapidly. The Waltham factory would have the advantages of roads leading from Boston to other important New England centers, and proximity to the seacoast gave assurance of a ready transport to other portions of the country. The population of Massachusetts was estimated at about 500,000; that of the United States at more than 7,000,000. Cotton was being grown on a rapidly expanding scale in the South. Whereas prior to 1790 much of the raw material had been imported, in 1791 exports had been 19,000 pounds, and in 1810, over 93,000,000 pounds, while the domestic consumption was placed at about 16,000 pounds. There was every indication that cotton culture in the South would insure a satisfactory supply of raw materials. Slave labor was coming into general use on plantations.

To secure adequate labor did not offer insurmountable ob-

stacles. The existing cotton-spinning factories indicated the presence of at least a minimum supply. Population was increasing, and use of power looms would decrease the need of skilled operators, as contrasted with hand-loom weavers.

The state legislature always had been favorable to manufacturing enterprises; no interference, therefore, was to be expected. Mr. Appleton had faith in the ability of the management of the new company and decided to subscribe to $5,000 of the stock as a speculation.

The company chose a skilled mechanic to undertake the construction of a power loom according to Mr. Lowell's directions. After a short period, the loom was installed. In connection with it, was used a dressing machine which the Boston Manufacturing Company made, with improvements, from a model previously patented by Mr. Horrocks, of Stockport. Improvements were made in other machinery and in the method of spinning.

From the first starting of the power loom, its operation was a success; the full capital of $400,000 soon was subscribed, and with $200,000 more, an additional factory was purchased in Watertown.

1. What were the advantages, what the disadvantages of the "putting out" system? Of the factory system?

2. Why was the factory slower to develop in the United States than in England?

3. What factors would contribute to the success of this mill where others had failed?

3. Newille Company

EMPLOYMENT OF CARPENTERS

The Newille Company operated five factories for manufacturing box toes. The plants were in different cities, but all were within a radius of 50 miles. This proximity facilitated deliveries to neighboring shoe manufacturers who incorporated box toes in their products. In the largest of the company's plants the necessary carpentry work had been done by a carpenter employed by the company. At times there was not enough work to keep him occupied, and at other times there was so much work of that type that the company had to employ other carpenters tempo-

rarily in order to complete large jobs promptly. On account of this irregularity of demand, the manager in 1923 considered discharging the permanent carpenter and arranging with an outside contractor to obtain the services of other carpenters whenever needed.

The plant in which this situation arose was centrally located in a small city where there were numerous other factories of several kinds. It employed about 100 men.

In addition to its office and manufacturing departments, the plant maintained a small machine shop with a master mechanic and two helpers, who made repairs on the machinery in the plant.

In each of the other four factories there was one mechanic. These mechanics were fully occupied with repairing machinery, and sometimes had more work than they could perform. At such times they sent parts to the central plant to be repaired. Whenever there was no repair work to be done at the central plant, the master mechanic and his helpers made new parts for machines. The services of these employees, therefore, were constantly in demand.

Carpentry work at the central plant, however, was done under different circumstances. The carpenter's tasks included among others the making or repairing of workbenches, platforms, stairways, doors, and partitions. Many days there was no work of that kind to be done. On such occasions the carpenter's time could not be used. No carpentry work could be brought in from the other plants, and the company could not assign the carpenter to manufacturing tasks for short periods without interfering with the usual routine work of other employees. When extensive pieces of work had to be performed, however, the single carpenter frequently required assistance. The carpenter was a skilled workman who had undergone a period of several years' training to learn his trade. Satisfactory assistance could not be furnished by other workmen who were unskilled in carpentry. The tasks were not standardized.

It was possible for the company to employ several semiskilled carpenters in the manufacturing departments, and to have them assist the carpenter when necessary. That plan was opposed, however, because it would frequently interrupt the productive operations.

A near-by contractor, who employed a considerable number

of carpenters, offered to supply workmen of that type to the Newille Company on request, if the latter company would agree to have all its carpentry work done in that way. The contractor was reliable, and stated that he always could furnish skilled carpenters at short notice. His charges would be somewhat higher per hour than the wages paid the Newille Company's carpenter.

The plant manager decided to discharge the carpenter and from time to time to engage from the contractor such workmen as were necessary. A distinct saving seemed possible even if one or more men were required half the time. He estimated that the plant's requirements would be sufficiently large to receive the contractor's prompt attention.

1. Did carpentry represent a simple or a complex form of division of labor?

2. Why did the contractor find it advantageous to have a large number of carpenters, while the Newille Company did not?

4. Hutchinson Engineering Company

SPECIAL DEPARTMENT TO MANUFACTURE NONSTANDARDIZED PARTS

The Hutchinson Engineering Company manufactured 20 different types of winding machines for use in the production of textiles. These machines were large, highly complicated, and protected by patents. Their designs gradually had been improved during a number of years, so that each was able, under the care of a competent operator, to replace the labor of many individual workmen. Manufacturers of textile cloths purchased the machines, which were used to wind cotton and wool on spools preparatory to the process of weaving. Each machine was finally made up by assembling about 400 different metal parts, of which approximately 350 were of standard pattern. The remaining 50 had to be varied for each machine, to meet the specifications of different purchasers. By the use of the special parts the machines were adapted to meet requirements for use in individual mills. Standardized parts were those which were made in large quantities and were used in assembling all the company's machines. They included such articles as nuts, bolts, levers, cogs,

gears, and bars. These parts were interchangeable; that is, all articles of a given type, as 4-inch bolts, were made identically the same, and any one bolt of that description could be used in place of any other one. It was not necessary, therefore, to know in advance what particular machine any bolt was to be used in. Consequently, all the standardized parts could be made in large quantities at one time and then stored until needed in assembly operations.

For making standard parts, the company had adequate methods of assigning each process to the proper factory machines and operatives, and for having the parts moved from one process to another until all the necessary operations had been performed. Then the finished parts were stored until called for. Since special parts, however, could not be made in large quantities, the workmen had to readjust their machines frequently to do the special work needed. Thus time was lost and the flow of work was interrupted. Special parts, moreover, had to be made according to specific patterns and for individual machines. Such parts had to be made singly, according to instructions from customers, and could not be used in assembling any machines except those for which they were designed.

Ten types of machines normally were in process of manufacture. As a result about 4,000 different parts were being produced at any one time. Of these, 500 were special and had to be made according to specifications which differed from any which the company previously had received. The manufacturing department, therefore, was required to produce parts for which it could develop no standard procedure.

Under those conditions, it was impossible to avoid frequent readjustments of machines and interruptions of production; while equipment and employees were idle in some departments, in others machinery was operated overtime. The accurate fixation of delivery dates for assembled machines was difficult. Sometimes the company could not fulfill the delivery promises of the sales force.

It was decided, therefore, to separate the manufacturing departments so that the standardized interchangeable parts common to all machines could be produced at a rate consistent with expected orders and factory economies.

A special department was organized under the supervision of

an exceptionally able foreman to manufacture all special parts. This new department was equipped with machinery designed for such work. The company expected that this arrangement would permit the employees assigned to the special department to concentrate attention on accurate production of nonstandardized parts.

It was estimated that savings could be effected by eliminating idleness in the departments manufacturing standard parts. Discipline could be enforced throughout the factory with more satisfactory results. Employees not in the special department, furthermore, were expected to acquire increased speed because they no longer would have to readjust their machines frequently in order to produce a small quantity of special parts. These workmen, however, would not have opportunity to manifest their ingenuity by working on new and varied tasks, whereas the men assigned to the special parts department would become highly resourceful. The plan was expected also to eliminate confusion in the departments manufacturing standard parts. It was expected that through the selection of a capable foreman for the new department the necessary special work could be completed with a minimum loss of time and spoilage of parts.

1. Would you expect a company to obtain economies in production by standardization of its output?

2. Is the division of labor affected by the making of interchangeable parts?

3. What effects would the creation of the special parts department have on the resourcefulness of the employees assigned to it? How would the quantity of their output per man compare with that of the employees making standardized parts?

4. Would it be desirable to make only standardized products, from the viewpoint of:

a) The community?

b) The individual workman?

5. Collington Company

HIRING EMPLOYEES TO PERFORM SPECIAL TASKS

In September, 1924, the Collington Company, a manufacturer of automobile and bicycle tires and tubes, contemplated making

detailed analyses of each task carried on in its factory. The primary object was to obtain data to aid in hiring employees who would be best suited to the specific tasks to be performed. The company employed 3,500 men and women in 40 departments, as listed in Exhibit 1. The factory was located in a city containing diversified industries and having a population numbering about 200,000.

EXHIBIT 1

FACTORY DEPARTMENTS OF COLLINGTON COMPANY, SEPTEMBER, 1924

Departments	Number of Employees	Departments	Number of Employees
Inspection	352	Stores	14
Tube	418	Garage	21
Cutting	179	Accounting	34
Crude Rubber	97	Equipment Storage	1
Mill	119	Experimental	10
Cement	7	Mold Storage	17
Electrical	21	Yard	21
Power	17	Box	7
Heater	311	Cord Tire Air Bag	13
Sundry	5	Internal Transportation	49
Bead	144	Elevators	27
Bicycle Tire	49	Road Transportation	15
Press	48	Solid Tire	34
Pipe	26	Construction	5
Machine	116	Cord Tire	705
Mold Equipment	42	Cord Tire Pocket	220
Shipping	80	Sanitary	45
Repairs	7	Receiving	21
Carpenter	26	Calendar	207
By-products	7		
Cleaning	20	Total	3,557

In each department, the tasks were subdivided as far as economical between the department's employees. Each workman usually performed one repetitive task, either by hand or by operating a machine. Although some departments, such as electrical, repairs, carpenter, and elevators, contributed only indirectly to the actual making of the products, the quantity and quality of the finished products depended in the long run upon the successful, continuous cooperation of all the departments and the individual workers within the departments.

The company never had made systematic analyses to determine the physical and mental characteristics and the extent of skill that a worker should have in order to perform a particular task efficiently. In other factories making such studies, many of the

facts obtained usually were recorded on standard forms and then were known as job specifications. The specifications were used by employment departments in hiring people.

In the Collington Company the function of hiring employees was performed jointly by an employment manager, or his assistant, and the departmental foremen. The number of additional employees needed at any time was determined by the foremen from their knowledge of the production program and the capacity of their departments. When there were vacancies to be filled, the foremen sent requisitions to the employment department stating the number of men desired and describing the tasks the newcomers were to perform.

In filling these requisitions, the assistant employment manager looked over the applications of men who had been interviewed, and the card file of workers who had been laid off. If no suitable persons were obtainable from those sources, the assistant turned to the people applying in person at the employment office. During periods when production was increasing and additions to the labor force were necessary, the company sometimes hired from 80 to 150 men a day. Even at this rate of employment workers were available in the surrounding districts.

Applicants for the positions were interviewed first by the employment office. The personnel of the employment department included a record clerk, who made out a time card, an engagement slip, and a physical-record card for each employee hired; a secretary to the employment manager; and two typists. The record clerk was given opportunity to visit all departments in the factory in order to secure complete knowledge of all tasks performed. In making out the employment records, he became acquainted with the new workers and gained information as to the types of men placed at the different tasks. If the first interview proved satisfactory to both the employment manager and the applicant, the latter was interviewed also by the foreman of the department needing employees. Each applicant who the foreman decided could do the work acceptably was given a strict physical examination and, if he (or she) passed that, he was told to report at the factory the next day. The company had no definite program for training new employees to perform any of the factory's operations. The employment manager occasionally transferred workers from one department in the plant to another.

The foremen had complete authority over the men in their own departments. They instructed inexperienced workmen and transferred workers from machine to machine as production orders required.

The Collington Company's products were standardized. They were manufactured on a large scale and entirely for stock. No orders for special products were accepted. As a result, operations and equipment were standardized throughout the plant to a high degree; factory equipment for the performance of similar tasks varied only in accordance with the different sizes of tires or tubes. Raw rubber was calendered and rolled to prepare it for rubberizing the fabric which was purchased from textile mills. The manufacture of the fabric plies was a machine operation in which the duties of the operator consisted merely of starting and stopping the machine, feeding the rubber and fabric to it, and watching to see that the materials were processed correctly. The rubberized fabric, cut into widths for the various sizes of the tires, was rolled up by one set of workmen so as to be ready for the laborers who next assembled the "pocket," "bead," and "cushion, breaker, and tread" for the tire builders. Pure rubber for tires and tubes was calendered, cut to size, and rolled up also.

The operations of preparing the materials from which cord tires were finally built included making the "pocket," the "bead," and the "cushion, breaker, and tread." These were known as "subassembly materials." The "pocket" was made up of one or two plies of the rubberized fabric. One-ply "pockets" were received by the builder in flat strip form. Two-ply "pockets," when ready for the builder, resembled large elastic bands. The ends of one strip of fabric were folded over and cemented together. The middle point of the second strip was laid over the junction of the ends of the first strip. The two strips were turned over on the table, and the ends of the second strip were folded over and cemented together. The "bead" was the small strip of rubber by which the finished tire was secured to the rim. The manufacture of the "bead" was a machine operation. The "cushion, breaker, and tread" were three strips of rubber. The "cushion" and the "breaker" were narrow strips which covered the top of the tire only and were designed to absorb some of the shocks. The "tread" was similar in width to the "pockets" and constituted the layer which was later molded into the "tread"

design. Those were assembled in one of the operations into a single strip ready for the builder. The various benches for the subassembly operatives, as well as the tire-building equipment, were placed around a continuous conveyor that ran from one end of the room to the other. Subassembled material, "air bags," and finished tires were all hung on hooks on the conveyor and removed by those who were to work on them next. One man kept the conveyor supplied with "air bags" and another removed the complete tires as they came around and put them on a conveyor which carried them to the room where they were subjected to heating.

Each tire was built from the subassembly materials by some one man of the group assigned to the task of tire building. The operative obtained an "air bag" inflated to the size called for by the order and fitted it to a disk which was revolved by an electric motor. He took the "pockets," stretched each one on a stretching machine, and placed them, one at a time, over the inflated "air bag." The number of "pockets" used varied with the size of the tire. After each "pocket" was in place, the disk was revolved and the strips rolled down the side of the "air bag" by a small roller held by the operator. Each "pocket" was brushed with a coating of cement. The "bead" was placed between the first and second "pockets." The "cushion, breaker, and tread" strip was cemented over the top pocket and rolled down in a manner similar to that employed in rolling down the "pockets." The tire was then removed from the disk and hung on the conveyor ready to be delivered to the heating room.

Tire building was a difficult operation for the beginner. The knack and skill necessary to handle the sticky materials and liquid cement were not acquired until after four or five weeks' experience. Also, the work was fatiguing. The operator had to exert a great deal of strength in rolling down the sides of the tire, in order to be sure that the cement would take a firm hold. Tires in themselves were heavy articles to lift.

Men introduced to the tire room were paid 45 cents an hour, until they could earn more on piecework. Regular operators earned from $7 to $9 a day. New workers were usually in the plant approximately six months before their earnings reached that point. They frequently became discouraged when they com-

pared their production and earnings with those of workers who had been building tires for several years.

The tires were received in the heating room, where one corps of men encased them in iron molds, which were conveyed to drums in which they were sealed and subjected to heat for a specified length of time. Molds then were removed automatically from the drum and another group of men took the tires out and extracted the "air bags." The tires were then ready for the separate operations of inspection, wrapping, and shipping. All movement of tires and molds in the heating room was effected by continuous conveyors, so that very little lifting was necessary.

It was expected that if analyses of tasks were made, the investigators would observe all the operations, question the foremen and perhaps the workers, and make records of the results. The employment manager estimated that approximately 500 distinct tasks were performed in the plant. Some employees were paid higher wages than others. These differences arose because some tasks were more difficult to learn than others, or required greater personal ability. Changes in the technique of manufacture would necessitate revision of the data from time to time. For example, a conveyor system had been installed recently in the tire-manufacturing department. That innovation had created new tasks and had changed old tasks.

1. Should the company have desired to have analyses of individual tasks available for the guidance of the employment manager in:
   a) Hiring new employees?
   b) Transferring employees between departments?
2. What personal characteristics should the company have required of all employees?
3. Would you have recommended that an employee's previous experience in performing a given task be given more weight in choosing new applicants, than (*a*) steadiness? (*b*) cooperative ability? (*c*) obedience to orders?
4. Was it probable that machinery would be invented to perform the process of building the final tire from subassembly materials?

II

LOCALIZATION OF INDUSTRY

Black, 182-203, 252-259; Bye, 35-36; Clay, 27-31; Edie, 58-59; Ely, 122-124; Fairchild, I, 80-81, 520-522; Gide, 66-77, 167; Marshall, 267-277, 745-746; Rufener, 50-51, 230-233; Seager, 21-49; Seligman, 37-48, 297-303; Taussig, I, 43-47; Turner, 61-65.

1. Ajax Parts Company

CHOOSING LOCATION FOR MANUFACTURING PLANT

The Ajax Parts Company, located 150 miles west of Chicago on the Mississippi River, manufactured accessory parts for motor vehicles, both passenger automobiles and trucks. When a favorable opportunity arose, the owners of the Ajax Parts Company bought control of a somewhat similar manufacturing company, the Speedwell Carburetor Company, located in Brooklyn, New York. After the purchase, the owners of the Ajax Parts Company wished to unite the two companies in one factory, but were undecided as to what locality would be most suitable. One of the company officers, therefore, was asked to report on the following question: "In regard to locating the new plant, what section of the United States combines the greatest advantages for manufacturing and marketing our products?"

The annual average sales of each company were $600,000. The Speedwell Carburetor Company had 210 employees, of whom 100 were women. It occupied half of a manufacturing building; the other half was occupied by a foundry and machine shop, in which were made gas and oil stoves and other metal products. This foundry also made on annual contracts all the brass and iron castings needed by the Speedwell Carburetor Company. The latter owned and supplied to the foundry the necessary patterns for castings. Costs of castings were about 12% of the total costs of the company's products.

The Speedwell Carburetor Company used about one-half its plant and labor force in making carburetors, of which two-thirds

Exhibit 1

Factors Concerning General Location of New Plant

States	Population* (1920)		Automobile Registrations Passenger Cars and Trucks† (1923)	Average Number of Wage Earners Employed in Establishments Manufacturing—	
	Total	Per Square Mile		Motor Vehicles‡	Motor-Vehicle Bodies and Parts§
Alabama	2,348,000	45.8	126,642	.....	93
Arizona	334,000	2.9	49,175	.....	.....
Arkansas	1,752,000	33.4	113,300	.....	308
California	3,426,000	22.0	1,100,283	2,776	2,535
Colorado	939,000	9.1	188,956	.....	190
Connecticut	1,380,000	286.4	181,748	.....	910
Delaware	223,000	113.5	29,977	.....	31
Florida	968,000	17.7	151,990	.....	64
Georgia	2,895,000	49.3	173,889	.....	187
Idaho	431,000	5.2	62,379	.....	15
Illinois	6,485,000	115.7	969,331	3,718	6,218
Indiana	2,930,000	81.3	583,342	16,437	9,513
Iowa	2,404,000	43.2	571,061	.....	478
Kansas	1,769,000	21.6	375,594	.....	142
Kentucky	2,416,000	60.1	198,377	.....	593
Louisiana	1,798,000	39.6	136,622	.....	139
Maine	768,000	25.7	108,609	.....	.....
Maryland	1,449,000	145.8	169,351	.....	306
Massachusetts	3,852,000	479.2	481,150	1,962	4,257
Michigan	3,668,000	63.8	730,658	149,296	70,157
Minnesota	2,387,000	29.5	448,187	.....	516
Mississippi	1,790,000	38.6	104,286	.....	.....
Missouri	3,404,000	49.5	476,598	3,581	2,712
Montana	548,000	3.8	73,828	.....	10
Nebraska	1,296,000	16.9	286,053	.....	178
Nevada	77,000	0.7	15,699	.....	.....
New Hampshire	443,000	49.1	59,604	.....	108
New Jersey	3,155,000	420.0	430,958	6,740	5,089
New Mexico	360,000	2.9	32,032	.....	.....
New York	10,385,000	217.9	1,204,213	11,160	15,266
North Carolina	2,559,000	52.5	246,812	.....	283
North Dakota	646,000	9.2	109,266	.....	.....
Ohio	5,759,000	141.4	1,069,100	24,787	21,963
Oklahoma	2,028,000	69.5	307,000	.....	60
Oregon	783,000	8.2	165,962	.....	132
Pennsylvania	8,720,000	194.5	1,043,770	4,959	11,523
Rhode Island	604,000	566.4	76,312	.....	255
South Carolina	1,683,000	55.2	127,467	.....	37
South Dakota	636,000	8.3	131,700	.....	.....
Tennessee	2,337,000	56.1	173,365	.....	1,445
Texas	4,663,000	17.8	688,233	828	458
Utah	449,000	5.5	59,525	.....	14
Vermont	352,000	38.6	52,776	.....	.....
Virginia	2,309,000	57.4	218,896	.....	193
Washington	1,356,000	20.3	258,264	.....	232
West Virginia	1,463,000	60.9	157,924	.....	61
Wisconsin	2,632,000	47.6	457,271	7,786	6,465
Wyoming	194,000	2.0	39,831	.....	.....
United States	105,710,000	35.5	15,092,177	241,356	163,530
D. Columbia	437,000	7,292.9	74,811	.....	.....

* *Abstract of the 14th Census of the United States*, 1920, pp. 23-49.
† *World Almanac*, 1925, p. 324.
‡ *Biennial Census of Manufactures*, 1923, pp. 1052-1053.
§ *Ibid*, p. 1061.

were sold on annual contract to automobile manufacturers. The other third, mostly for use in Ford cars, was sold through mail-order companies and automotive supply dealers to automobile owners who wished to replace old carburetors.

The company also made timers, at first for sale to car owners through the same middlemen, but for two years prior to this problem, some timers had been manufactured for a large timer company at prices leaving very small profits and fixed by yearly agreements. In making timers the company used die-castings and molded insulation which it produced in its own shop. It also made a number of patented accessories, such as water circulating pumps, muffler cut-outs, 2 styles of jack, and 15 other articles. All these products were chiefly for use on Ford cars, and were sold through retail stores and mail-order houses.

Sheet steel was the chief material entering into the products of the Ajax Parts Company. Of the company's 320 employees, two-thirds were men and boys. Among the products manufactured were mufflers for various makes of automobiles; half were sold by catalog and mail-order houses, and half were sold as standard equipment to two automobile manufacturers. Tool and battery boxes were sold to retailers. Sheet metal parts for Fords, including fenders, hoods, a type of special body, and honey-comb radiators, were sold through mail-order houses to consumers, and through wholesale dealers to retailers. The company had added to its products a variety of Ford replacement and accessory parts not made chiefly of sheet steel. These were sold through mail-order houses and wholesale dealers. The company used a few castings, mostly of iron, which it purchased. The factory was in a frame building of high fire risk, half a mile by convenient street-car line from the center of the city and located on two railroads and the river. The two largest mail-order houses in the country were in Chicago; there were wholesale dealers in all large cities and retail dealers in all cities.

As the basis for his preliminary selection of a suitable plant location, the officer of the Ajax Parts Company made up the table shown as Exhibit 1.

What should have been the officer's conclusions in regard to:

1. The states that should be excluded from further consideration?
2. The state that offered the best manufacturing facilities?
3. The location best suited for marketing:
   a) Those products for final sale to consumers?
   b) Those products for final sale to manufacturers?

2. Walworth Manufacturing Company

LOCATION OF NEW PLANT

At its original plant in Boston, Massachusetts, the Walworth Manufacturing Company manufactured cast-iron and malleable iron pipe and pipe fittings, tools, valves, and similar products. For many of the products brass was an essential supply. Although sales of its tools were practically world-wide, the principal market for the other products was in the northeastern and middle Atlantic states. The nature of the pipe and pipe fittings business required that manufacturers carry large supplies of those products in stock and be able to render special services to customers, particularly, prompt delivery of rush orders. With respect to this trade, therefore, the market served by the Boston plant was limited to the area in which the company could meet or better the deliveries made by competitors.

Wishing to expand the company's activities, the executives had previously made a study to determine the best location for an additional plant to manufacture pipe and pipe fittings. While making this study they had had the opportunity to purchase a suitable factory at Kewanee, Illinois. In order to obtain the proper raw materials for the manufacture of brass products, it was necessary to be near some large industrial center making similar products. Kewanee fulfilled this requirement. Although for the iron products the costs of labor, iron, and freight to some parts of the market to be served were higher in the Kewanee section than in some others, the purchase had been made because the price of the plant was clearly advantageous. Freight rates frequently amounted to from 10% to 15% of the sales value on the iron fittings and bulky products, from 3% to 5% on the brass fittings, and to 2% on the tools. For this reason it was impossible for the Boston plant to compete in the sale of iron products with inland producers in the latter's territories. The Kewanee plant was to serve all the inland territory and the Pacific Coast, while the Boston plant would continue to supply the Atlantic Coast.

By 1922, however, competing plants located in and near Birmingham, Alabama, were providing strong competition by quoting low prices. Those plants had lower production expenses than did the Walworth Manufacturing Company. The latter company, therefore, was forced to consider buying or building a plant in that

territory. Thus the company might be enabled to render service and to quote prices equal to those of competitors, and to serve adequately the important markets of the Texas oil fields and Cuba. Although competition was becoming more and more keen, haste was not regarded by the company as an essential element in the problem. No great difficulty was anticipated in financing any project which might be undertaken.

A study was made to determine the most favorable town or city in which to locate a Walworth plant. The plant would need ample supplies of pig iron, soft coal, coke, molding and core sand, power for manufacturing, and workmen. Among several places considered were the following: Chattanooga, Tennessee; Birmingham and Gadsden, Alabama. A brief outline of pertinent factors about each town or city was presented to the president of the Walworth Manufacturing Company as follows:

Chattanooga was served by six railroads and was located on the Tennessee River, which was used for barge transportation. It was expected that the river would be navigable for standard barges when the Muscle Shoal hydroelectric development was completed about 1925. A belt railway connected all entering roads and all industrial sections. Switching charges were low. The minimum weight on which a carload freight rate could be obtained was 10,000 pounds a car. In other parts of the country the minimum weight was as high as 24,000 pounds a car. Industry in Chattanooga was widely diversified. No one industry or establishment dominated the district. There were 10 banks. The street-railway system furnished adequate service for Chattanooga and outlying towns. Electric power was provided by a hydroelectric plant on the Tennessee River at low rates and with excellent service. All local foundries except one melted Birmingham pig iron. Scrap iron could be obtained locally in quantity, but no foundry used it, since pig iron was considered cheaper. Coke produced in a local by-product plant was not of high quality. The foundries used Birmingham coke. Local molding sand was believed to be satisfactory. Core sand was brought from Kentucky. Coal was produced near by and usually sold below Birmingham prices. Local soft coal was quoted at $2.60 a ton delivered against $3.50 on Birmingham coal.

Laborers in Chattanooga were almost all American-born; about 60% were white and 40% negro. The total population was ap-

proximately 85,000. Hours of work ranged from 48 to 60 a week, with a prevailing average of 54 hours. Of 28 foundries, there were only 2 in which the employees were unionized. Wage rates were set on a task basis, and each workman stopped work whenever he completed the daily tasks assigned him. Labor rates based on a 60-hour week were approximately as follows:

	Wage per Hour	
	Minimum	Maximum
General laborers (negro)	$0.20	$0.25
Core makers and helpers	.40	.45
Pourers	.25	.30
Grinders	.25	.30
Inspectors	.30	.32
Cupola workers	.20	.25
Molders (white)	.45	.55
Molders (negro)	.40	.45

In Chattanooga there were available the four plant sites indicated below. In the first two locations, housing developments, which probably would be undertaken by realty operators, would be necessary. No offer of a free site was made.

1. Acreage adjacent to the Belt Line in Moccasin Bend (near Chattanooga) for a maximum of $1,000 per acre;
2. Acreage south of the city for a maximum of $1,000 per acre;
3. Property just outside the city limits on Ship Avenue, available at $1,500 per acre;
4. The property of the Southern Machine Company on E. 23rd Street containing about 16 acres which could be bought from 3 owners at approximately $67,000.

Birmingham was served by 10 railroads. Railroads and factories were interconnected by a belt railway. The Warrior River, about 25 miles west of Birmingham, furnished water transportation by barge line to Mobile and New Orleans. It was expected that a canal would be completed within 5 years to provide barge service to Port Arthur, Galveston, and Houston, Texas. Freight rates via barge were 20% below all rail rates. There was small diversification of industry in Birmingham. The industrial situation was completely dominated by the operations of four important steel and iron companies. There were 11 banks. Birmingham was served efficiently by a street-car system. Electric power was furnished from a hydroelectric plant. Rates were low and service uniformly good. Pig iron was produced locally in great

quantities from local ore, local coke, and local limestone. Coal was produced locally; many mines were operated with convict labor. Birmingham ore and coal were of low grade. Coke of good quality was produced locally by several large plants. Molding sand was found within 50 miles of Birmingham.

The population of greater Birmingham was about 200,000, 57% native white and 39% negro. The small percentage of foreign-born labor was not regarded as efficient. The 54-hour week predominated in the foundries of this district. Wages in Birmingham were about as follows:

Class of Labor	Wage per Hour	
	Minimum	Maximum
General laborers (negro)	$0.27	$0.32
Core makers (negro)	.45	.50
Pourers (negro)	.30	.35
Grinders (negro)	.30	.35
Inspectors (white)	.35	.40
Cupola workers (negro)	.25	.30
Molders (white)	.50	.60
Molders (negro)	.45	.55

About 1920, a strike of foundry workers, led by the molders, occurred. The walkout was practically complete and lasted for several weeks. In 1923, however, all shops were operated as open shops; that is, they employed both union and nonunion workmen.

There were four available sites for a plant:

1. 12¾ acres at $1,750 an acre
2. 10 " " 1,500 " "
3. 10 " " 1,500 " "
4. 24 " " 1,000 " "

Gadsden, Alabama, was served by five railroads. Although its industry was considerably diversified, it was said to produce more cast-iron soil pipe and fittings than did any other city in the United States. There were four banks. A trolley system connected the business and residential sections of the city and also the neighboring cities of Alabama City and Attala. Electric power was furnished from hydroelectric developments. Rates were low and service excellent. In general, all foundries melted Birmingham pig iron. The Alabama Company operated two blast furnaces at Gadsden but sold the iron locally at Birmingham prices. Scrap iron could be obtained locally but was not worth using in

place of pig iron. All foundries used Birmingham coke. All varieties of sand were to be found locally as was also coke.

The labor supply was almost entirely American-born, only 2% being foreign-born; 32% were negro. The population was approximately 15,000. Adjoining Gadsden were Alabama City, with a population of 6,000, and Attala, with 3,500. The standard work week in all industries was 60 hours. Gadsden as a whole was in favor of open shops and discouraged the location there of industries that followed other employment policies. Labor rates were below those of any other place studied by the company. White molders earned $25 to $30 a week for 60 hours and negro laborers $2 a day of 10 hours. Acreage was available on all sides of the city and also within the city itself. The city's policy was to offer free sites to any desirable industry. Consequently, the Walworth Manufacturing Company made no investigation of property values.

The company had made a rough estimate that it would cost approximately $500,000 to $750,000 to build a plant in any one of these possible locations. Little of the company's product would be delivered in the town or city where it was manufactured.

1. Which city would you have selected?

2. Would you expect the company to confine operations in the new plant chiefly to iron pipes and fittings or to manufacture tools there also?

3. How was the problem affected by the fact that freight rates to most important markets were the same from Gadsden as from Birmingham?

III

SCALE OF OPERATIONS

Black, 207-233, 538-585; Bye, 154-167; Clay, 31-37; Edie, 66-78; Ely, 164-165; Fairchild, I, 120-138; Gide, 161-172; Marshall, 278-290; Rufener, 233-242; Seager, 165-169; Seligman, 335-351; Taussig, I, 48-66; Turner, 556-574.

1. Herrishoff-MacGregor Chocolate Company

DECIDING ON SCALE OF OPERATIONS

In January, 1924, Mr. MacGregor, who for five years had been treasurer of a successful chocolate manufacturing company, contemplated using his capital of $20,000 to establish a candy-making plant in New England. Before being made treasurer, he had acted as salesman for several candy companies. Although without practical manufacturing experience, he believed himself capable of managing a candy factory. He was undecided whether to manufacture chocolates, usually called soft candy, or hard, stick candy and whether to manufacture on a large scale or on a small scale.

Mr. MacGregor was acquainted with four other men who had had long experience in candy manufacturing. If he decided to form a company for large-scale production, those men proposed to join with him in the enterprise. Each would invest $20,000 and take an active part in the management. One, for instance, could supervise manufacturing operations, another the office and accounting functions, a third could act as purchasing agent, and a fourth as treasurer.

Many candy manufacturers with whom Mr. MacGregor consulted had started manufacture with investments ranging from $3,000 to $7,000. Accordingly, he believed that he could enter the business successfully on a small scale with an investment of about $5,000. It appeared customary to commence the manufacture of chocolate candy in a rented room with a small amount of capital invested in no apparatus other than stoves and cook-

ing utensils. In such plants, fixed, or overhead, expenses, including rent, interest on capital equipment, management salary, and miscellaneous items, were small. For $1,000 Mr. MacGregor could purchase sufficient second-hand apparatus to manufacture 1,000 pounds of candy a week. Weekly minimum operating expenses he estimated would total about $475, divided as shown in Exhibit 1.

EXHIBIT 1

ESTIMATED WEEKLY AND MONTHLY EXPENSES OF MANUFACTURING CANDY ON SMALL SCALE

WEEKLY	
Rental	$ 25.00
Salary of two helpers, at $30	60.00
Salary of one salesman to call on wholesalers and retailers	40.00
Salary of proprietor	50.00
Miscellaneous: insurance, light, heat, and taxes	25.00
Raw materials	275.00
Total operating expenses per week	$ 475.00
MONTHLY	
Total operating expenses per month (4½x$475)	$2,137.50

From his experience in selling candy Mr. MacGregor knew that he could obtain 50 cents a pound for his product. He expected that he could soon make weekly sales to the amount of $500. Sales per month would amount to $2,250 and the net profit to $112.50, or 5% of sales. To strengthen his credit standing and to meet contingencies Mr. MacGregor planned to keep $2,000 on deposit with a bank. He learned that manufacturers on a small scale usually sold only in local markets and spent nothing for advertising. It had been his experience that chocolate candy deteriorated rapidly when not in cold storage. There was a year-round demand for chocolates. Sales were unusually large before Christmas and other holidays.

It was necessary to use machinery in the manufacture of stick candy in order to make the candy uniform in size and shape; consequently it was more economical to produce stick candy on a large scale than on a small scale. Mr. MacGregor estimated that most manufacturers in this field began with an investment in factory and machinery of from $500,000 to $1,000,000. Manufacturers stated that hard candy sold in small volume throughout the year, and that over 60% of the year's sales came immediately

before Christmas and other holidays. Because of the large capital investment required and the seasonal nature of sales, Mr. MacGregor regarded unfavorably the manufacture of stick candy.

In the confectionery industry, it was reported that there was a distinct tendency toward large-scale production. The larger enterprises furnished over half the total supply of confectionery, measured by the value of the output, as shown in Exhibit 2.

EXHIBIT 2

SIZE OF ESTABLISHMENTS (CONFECTIONERY INDUSTRY) BY VALUE OF PRODUCTS, FOR UNITED STATES, 1923*

Class of Establishments According to Value of Products	Establishments		Wage Earners		Value of Products	
	Number	Percentage of Distribution	Average Number	Percentage of Distribution	Amount	Percentage of Distribution
All Classes.....	2,014	100.0	63,485	100.0	$366,255,785	100.0
$5,000 to $20,000.....	702	34.8	1,515	2.4	7,754,456	2.1
$20,000 to $100,000...	713	35.4	6,050	9.5	33,187,079	9.1
$100,000 to $500,000..	438	21.7	19,564	30.8	102,924,406	28.1
$500,000 to $1,000,000.	87	4.3	11,471	18.1	60,854,564	16.6
$1,000,000 and over...	74	3.7	24,885	39.2	161,535,280	44.1

* *Biennial Census of Manufactures*, 1923, p. 89.

Of the raw materials needed for making candy, granulated sugar represented the greatest risk of loss, since it was stocked in large quantities and its price fluctuated widely. Price changes are illustrated in Exhibit 3.

Mr. MacGregor concluded that the most satisfactory plan was to manufacture first-grade candy, both hard and soft, and on a large scale at the outset. He knew that many small candy factories were dirty, unattractive plants and he thought that, were it possible for him to erect a modern, sanitary factory with attractive offices, it would be possible to sell the output more easily to buyers of large quantities than if he operated a small plant. Such buyers seemed to prefer to purchase from companies which were able to offer complete stocks ready for delivery whenever needed.

Upon consulting building contractors Mr. MacGregor was informed that a fully equipped plant with a capacity of from 20,000 pounds to 25,000 pounds of candy a day could be built in a location close to adequate railroad service and labor supply for approximately $530,000. This allowed $20,000 for a site, $230,000

EXHIBIT 3

PRICES OF GRANULATED SUGAR IN BARRELS, IN NEW YORK MARKET, 1919-1923*

Year	Month	Average Price per Pound (Cents)
1919		8.9
1920		12.6
1921		6.2
1922		5.9
1923	January	6.7
	February	7.3
	March	8.6
	April	9.2
	May	9.4
	June	9.2
	July	8.5
	August	7.6
	September	8.2
	October	9.0
	November	8.7
	December	8.8

* *Commerce Yearbook*, 1923, p. 121.

for the factory, $200,000 for a cold storage plant with complete equipment, and $80,000 for machinery.

Making centers for soft candy was largely a machine operation, in which the operators' tasks were to supply materials to the apparatus in the correct proportions, to control the heating and power system, and provide trays or containers for the materials. For first-grade chocolate candy, the outside coating was added by a process in which the centers were dipped by hand into fluid chocolate preparations. Although machines for performing the dipping operation had been developed, they had not reached the point where they could be substituted for hand labor in making the highest grades of candy. In this respect, therefore, large-scale operations seemed to offer no economies over small-scale, except in keeping the hand operators fully occupied at one task. Mr. MacGregor believed, however, that he could reduce handling expenses to a minimum by installing mechanical cookers and stirrers, and by using moving belts driven by machinery to carry the centers of the candy to the dipping room and from the dipping room to the packing room. The cold storage plant could keep the storerooms, which would have a capacity for large quantities of candy, at a temperature at which candy could be stored in-

definitely without deteriorating. By storing candy it would be possible during the seasons when sales were small to accumulate stocks for the periods of strong demand. Upon investigation, Mr. MacGregor found that he could store any inventory beyond the capacity of his plant in cold storage plants, one mile distant from the proposed location of the factory. That method of storage, however, would add to the expenses the amount of the storage and rehandling charges.

In the opinion of candy manufacturers whom Mr. MacGregor consulted, it was impractical to start manufacturing chocolate candy on a large scale, and a large plant would operate at a loss for the first several years. Many candy manufacturers in New England had expanded their plants, and there was a large excess productive capacity.

Mr. MacGregor, however, had confidence in his own ability and that of the four other men who had offered to cooperate with him. Mr. MacGregor was inclined to think that the company should be organized to operate on a scale large enough to have sales of from $750,000 to $1,000,000 yearly. Bankers assured him that sufficient capital could be obtained to finance such an undertaking.

Should Mr. MacGregor have decided on small- or large-scale operations?

2. Sheldon Chain-Store Company

ESTABLISHMENT OF BAKERY

The Sheldon Chain-Store Company operated a chain of 800 grocery stores in and near a metropolis. It purchased the bread it sold in its stores from three independent bakeries. Although the company purchased bread in large enough quantities to supply all its stores from the bakeries, it was forced to pay the same prices as did independent grocery stores which bought in relatively small amounts. In the company's stores, bread was sold mainly as a convenience to customers, and no special efforts were made to increase its sale.

In 1923 the Sheldon Chain-Store Company considered establishing a bakery with a capacity sufficient to supply bread for all its stores.

Each of the independent bakeries was of medium size. Sales were made for the most part by the drivers of the delivery trucks. The drivers received commissions on the amounts of their sales.

The machinery used in the baking industry had been improved steadily; large, labor-saving appliances operated by gas and electricity had been developed. Such machinery represented a substantial initial investment. With a large output, however, such apparatus resulted in low costs per loaf of bread.

The Shelden Chain-Store Company had ample funds for the erection of a new bakery and could buy the most modern equipment. Estimates of probable expenses of operation indicated that the company could obtain economies in several ways by owning a bakery. A bakery large enough to supply the 800 stores could use the modern machinery effectively, it was estimated, at low cost per unit of product. Some phases of the bakery management could be performed by the company's existing organization. Thus, accounting and general administrative work for the bakery would entail no additional expense to the company. The bakery could be established in connection with the company's warehouse building, at minimum expense for new construction. The company had ample working capital to permit the bakery to buy in large quantities and therefore at the lowest prices obtainable. A skilled bakery manager would be employed to supervise the technical operations. Deliveries could be made by the trucks that the company already owned. No sales would be made to independent grocery stores.

It was the policy of the Sheldon Chain-Store Company to retail such staple groceries as bread at prices which allowed only slight profits. The company had sold two sizes of bread, one loaf at 11 cents, the other at 8 cents. By operating the bakery at the estimated expenses, the company could sell the 11-cent size at 9 cents, and the smaller size at 6 cents, while obtaining the same amount of profit per loaf as previously made on the sales of purchased bread. The reduction in prices, however, might lead to larger quantities of sales.

1. Should the company have decided to operate its own bakery, or should it have tried to persuade the independent bakeries to quote prices as low as the estimated costs of making bread in the proposed bakery?

2. If the company had had stores throughout the United States, would it have obtained greater advantages by having one large bakery near each of the chief centers of population or by having a number of smaller bakeries?

3. Would your answer to 2 be different if the only products of the factory were crackers and cookies sold in boxes?

3. Atlantis River Company

INVESTMENT IN FOUNDRY

The Atlantis River Company specialized in the production of machinery, the value of which averaged between $3,000,000 and $4,000,000 annually. The factory was located in a city where there were not sufficient foundries to fill the company's requirements for castings. As a result, a portion of the castings had to be purchased from foundries in other cities. It was not always possible to secure prompt deliveries because the foundries often were fully occupied in filling orders for other companies and because delays occurred in shipments made from other cities. One policy of the managers was that, as nearly as possible, the company should be operated as a complete unit. It was proposed, therefore, that additional investment should be made to provide a foundry adjacent to the existing factory.

An analysis of the cost of machines manufactured showed that normally iron castings represented nearly one-fifth of the complete cost of each machine. The relative proportions of factory costs are shown by Exhibit 1.

Exhibit 1

Cost Factors of Machines Manufactured by Atlantis River Company

Castings from foundries	18%
Labor	15
Stores	10
Materials in process	16
Finishing processes	3
Factory expense	38
Total factory cost of output	100%

Thus the value of castings used in assembling the machines exceeded slightly the value of parts which the company manu-

factured. In order to insure steady production and to eliminate delays in factory schedules, it was necessary for the company to purchase sufficiently large stocks of castings to eliminate the risk of shortage. This involved the investment in castings of more working capital than the company deemed justifiable. Furthermore, the quality of castings delivered by outside foundries was not always in accordance with the company's specifications, and although such castings often were used, changes were necessary in the methods of processing them. When the castings were harder than specified, tools used to machine them required more frequent repairs and renewals.

It was estimated that an investment of $250,000 would be required to construct and equip a foundry adequate to handle the company's orders for castings. The company had been managed conservatively and was able to finance the proposed foundry readily. It was found, however, that a factory of the size contemplated could not be operated economically if it were to produce only the castings used by the company, because they were almost entirely of small size and of specifications calling for expensive molding processes. If constructed, therefore, it would be necessary for the foundry to secure sufficient orders for heavy iron castings from near-by manufacturers to make possible a uniform and economical production. It was expected that orders from outside companies could be secured readily, and without additional sales expense, in large enough volume to allow the foundry to pay all fixed and operating charges. In that case, castings required by the Atlantis River Company would be billed to it at cost, and a profit realized on outside work.

Would you have advised the company to build the proposed foundry?

4. United States Steel Corporation[1]

PLANS FOR INCREASING SCALE OF OPERATION

When the steel business of the United States is referred to, one thinks of it as practically being in the hands of the United States Steel Corporation. Circumstances have made this natural. The manufacture of iron and steel in their basic form is confined to local districts. Outside of these localities and outside of those engaged in the steel business, there was, prior to 1901, but little general knowledge or appreciation

[1] Based on *United States* v. *U. S. Steel Corporation,* 223 Federal Reporter 55.

of its magnitude and its basic relation to the general business of the country. When, therefore, this great steel company was quickly formed in that year and became at once the largest corporate capitalization known, it naturally and at once became associated in the general mind with absolute monopolistic control. But the fact that the Steel Corporation, after due selection by it of such lines of finishing mills as were deemed necessary to carry out its plans, left outside of it a most strenuous body of strong competitors was not then generally recognized. . . . .

Taking the Steel Corporation as the basis of comparison, we may say that while the proofs show a very material increase of 40-odd per cent in the Steel Corporation's business from 1901 to 1911, yet this very substantial increased percentage of the Steel Corporation's own business was less than that made by each of eight of its great competitors, as follows:

. . . . . .

Company	Location	Increase of Production from—	Percentage of Increase
Bethlehem Steel Co.	South Bethlehem, Pa.	1901 to 1913	3,779.7
Inland Steel Co.	Indiana Harbor, Ind.	1901 to 1913	1,495.9
La Belle	Wheeling, W. Va.	1901 to 1913	463.4
Jones & Laughlin	Pittsburgh, Pa.	1901 to 1912	206.7
Cambria Steel	Johnstown, Pa.	1901 to 1913	155.5
Colorado Co.	Pueblo, Colo.	1901 to 1912	152.8
Republic Iron & Steel Co.	Youngstown, Ohio.	1901 to 1912	90.8
Lackawanna Steel Co.	Buffalo, N. Y.	1901 to 1911	63.2

. . . . let us address ourselves to the proofs of what was done at or about the time the Steel Corporation was formed, and from these proofs alone determine whether the object of those forming it was to prejudice the public by unduly restricting competition or unduly obstructing the course of trade, or, even if there was no such intent, was the inherent nature of the Steel Corporation's contemplated acts such as to prejudice the public by unduly restricting competition or unduly obstructing the course of trade?

A study of these proofs satisfies us that the United States Steel Corporation could not have been formed unless the minds of two men had previously united in a common purpose. Those two men were J. Pierpont Morgan and Andrew Carnegie. With them cooperated Charles M. Schwab, the president of the Carnegie Steel Company, Elbert H. Gary, president of the Federal Steel Company, and James H. Reed, the counsel of Mr. Carnegie and a director of the Carnegie Steel Company, all of whom, except Mr. Carnegie, became directors of the Steel Corporation. While the cooperation and participation of other persons and other companies subsequently aided and was necessary to the carrying out of the proposed formation of the Steel Company, yet, laying aside all mere incident, and going to the crux of the case, it is clear from the proofs that the Carnegie Steel Company held such a dominant relation to the steel and iron trade, and Mr. Morgan held such a dominant relation in finance, that unless Mr. Carnegie, who

was the controlling shareholder of the Carnegie Steel Company, and Mr. Morgan, through his relation to the finances of the country and as a director of the Federal Company, could make possible a purchase of the Carnegie Company by the Federal Company, the United States Steel Corporation could not, and would not, have been formed. As Messrs. Schwab, Gary, and Reed all aided in bringing the two principals to an agreement, and as a result of such agreement was the formation of the Steel Company, we are justified in saying that, if there was intent to violate the Sherman Law, to be effected through the organization of the Steel Company, then such company was primarily the work of Messrs. Carnegie and Morgan, assisted, of course, by all those who participated in the furtherance of this primary purpose of bringing the principals together, as directors of the Federal Steel Company in agreeing to a purchase of, or in forming and taking part in, the management of the Steel Corporation itself.

Considering the magnitude of what was done, the mere sequence of events which resulted in the formation of the Steel Company had a directness, a simplicity, and a rapidity which is remarkable. On December 12, 1900, Charles M. Schwab made an address at a dinner given to him in New York in which, in substance, he gave a clear statement of the steel business, showing that the metallurgical method of making steel and the physical method of handling it were then fully developed, and he outlined his notions of wherein further advance was possible. His testimony as to his address is:

> I talked about the advantages that might be derived from doing a manufacturing business on a larger scale than had then been attempted and than we had undertaken in the manufacturing lines up to that time; all our endeavors up to that time had been to perfect methods of manufacture. By that I mean metallurgical and economical methods. By economies I mean that I believed that we had then reached the limit, or very nearly so, at which economies from a metallurgical or mechanical standpoint could be made effective, and I believed that the next great step in economical manufacture was to so regulate the business and plants of the business in manufacturing on a larger scale than had ever been attempted heretofore; that instead, as was then the practice, of having one mill to make 10 or 20 or 50 products, the greatest economy would result from having one mill make one product, and make that product continuously. The history of manufacture has shown that any line that specializes in any direction obtains the best economical results, and I believed that the various lines of steel should be so specialized, that it was not possible for any one company then to do that at once, but I also believed that great economies would result from locating mills at the point of consumption, by which the cost of transporting the finished material to the point of consumption would in many cases be reduced or saved. I also pointed out that I believed that great economic results would follow from our being able to manage these concerns in a

manner that would stimulate the most effective effort in the management of the different concerns.

. . . . . .

I went on to say that one of the most effective things would be our ability, as I said before, to stimulate the various managements. Secondly, or thirdly, I felt that the great export business of this country in iron and steel could only be done in that way. I felt, furthermore, that great economies would result in all these general items of expense which are met in the manufacture of iron and steel, on account of selling, traveling, office expenses, and all the general items that each individual concern with an individual line had to cover with a full organization. That could be covered by one such organization, and I felt that much economy would result in that direction, and, indeed, the whole line of my talk that evening was intended to show that the next great economic step to be made in the manufacture of steel, or, indeed, any business in general—I did not confine myself entirely to the steel business—directly to the steel business, but, in general, that the great economic result to be next obtained in manufacture was by the adoption of these methods, and then I made that application generally to the steel industry. . . . . I pointed out, for example, the attempt that had been made to manufacture steel cars; that few companies throughout the United States which were engaged in the manufacture of bridges and other fabricated materials were attempting to manufacture steel cars; that that could never be successful; that the only way it could be successful was for some one works to devote itself exclusively to the manufacture of steel cars, and one kind of steel cars; that if different kinds of steel cars had to be made, like passenger cars, for example, as being different from freight cars, two separate works, as following out this general line of policy, would have to be built and so operated. I then pointed out, for example, structural steels. In those days a structural mill would probably make six different sizes of beams and channels and angles; by my plan a mill would be built that would roll on angles exclusively, and a mill would then be built that would roll on beams exclusively, and that the finished material, and so forth, of these mills, being adapted for that special thing, would be better and cheaper.

. . . . . .

Shortly afterwards Mr. Morgan sent for Schwab, who says:

This whole subject was then gone into with much more detail, and the theories which I then advocated were amplified with reference to their application to the steel industry; and I pointed out at that interview to Mr. Morgan in great detail the economies and advantages that would result under those theories from their application to the steel industry.

Q. Was there any suggestion then, or discussion, with regard

to the advisability of a large corporation with facilities for manufacturing on all lines?—A. There was; that was the chief discussion of the evening.

Q. Can you go into that a little fuller?

. . . . . .

I told Mr. Morgan that if the steel industry of this country were to start anew, that if there were no steel plants here, what I should advocate and build was such a plant as I have described heretofore, but that in view of that fact that the most of these things did exist, perhaps not in an ideal way or ideal location, that a new plant would be made possible, and that in view of the fact that they did exist, and that they could be made ultimately to conform to this theory, I believed that the then existing steel plants which I pointed out to him could be formed into one company, which would ultimately accomplish all the results which I had outlined. That was discussed at some length. The companies were mentioned that I thought would accomplish these results. They did not, by any means, embrace all the companies in the United States, but those which I thought would effectively make such an organization as was outlined.

Q. Were they such as to cover all the branches of the industry?—A. They were.

Q. And what was your discussion with him with regard to the foreign situation?

. . . . . .

With reference to the foreign situation, I pointed out to him that up to that time our business, the steel business in general, had been nominal with reference to export business; and that, in my opinion, it could only be made profitable and possible by such an organization; that no company selling an individual line, a single line, or one or two lines, could hope to successfully compete for foreign business where they were not prepared to furnish the customer every line that he might require for a structure or a business; and that half a dozen or a dozen individual companies could not afford the expense or the organization or secure the talent necessary to make a successful export business, while such a company as I outlined could.

. . . . . .

Q. Did you mention the facilities that such a corporation as you described would need to possess?—A. I did; and I may say that I enlarged and perhaps made a more strenuous talk to Mr. Morgan upon the subject of export and our ability to export and foreign business in foreign markets than any other, excepting only the economic advantages to be derived.

. . . . . .

With reference to the ore, I pointed out to Mr. Morgan how

advantageous it would be, for example, for one mine to mine all it could, regardless of what furnaces or products it was to go to, and have that ore then distributed by an expert between these 100 furnaces that would then operate, instead of 5 or 6 by which the mine could run continuously and run at a given amount and under the most economical conditions, regardless of how the ore was to be distributed; because, when a firm owned 5 or 6 furnaces, it was a question of how much of each kind of ore from each mine they could use, but, when a firm owned 100 furnaces, the question of distributing the ore from each individual mine to that furnace became a simple and effective one; and that that would be of great advantage from a mining point of view. The fact that one mine contained ore of a high percentage of phosphorous might make it possible in an individual concern to only run it half the year; while, if the product from that mine was to be distributed to 100 furnaces, the additional amount of high phosphorous would be so little as to be no disadvantage, and therefore that mine could run continuously. With reference to the handling of the ore from the mines to the docks in the days of individual ownership, it was exceedingly difficult at the docks and on the railroad to keep the ores for the different firms and from the different mines separated and shipped as they desired to handle it upon their boat; whereas, with this large ownership of works, it was possible to ship the ore to the various docks as fast as it came down, without any of the expense from delay. The ships, instead of waiting at the docks until their special load of ore could come around and take the ore, would come into port and depart ten hours later, instead of three or four days later, because the ore was always there ready to load on the ships. There is nothing in shipping that costs more than delay in discharge and loading; and therefore that very great economy was accomplished at once. I think the records of the ships will show today that a very small fraction of the time was consumed in handling the materials at terminals, as compared with what it was in times of individual ownership. So I went through from ore mines, railroads, and shipping, to the handling of material, right down to the finished material, which was the same thing as I have described before with reference to individual efforts.

Q. Did you or not speak of the advantage of a company owning its ore and its furnaces, and its rolling mills and finishing mills?

. . . . . .

I told him—I will put it that way—that up to 1892 there was a very strong feeling that manufacturing companies should not own ore, but that had then changed. The Carnegie Company was gradually acquiring ore wherever it could, and, to my mind, the successful manufacture was only possible where every single step in the line of manufacture was carried out by some one concern,

and that for the greatest economy, for the greatest development of the business, it was an absolute necessity.

. . . . . .

We turn next to Mr. Morgan and such other persons as cooperated with him in forming the Steel Corporation and see what the proofs show. The vast size of the Steel Corporation they formed, the influence and control incident to such size, its seeming power to crush competition, its ability to absorb business through its systematized organization are all factors so associated with monopoly to restrain trade and crush out competition that we may say that, standing alone as a mere isolated fact, this great company gives one such an impression of monopoly that we feel we may in this inquiry place the burden upon it and its formers to satisfy us by affirmative proof that monopoly was not the purpose for which it was formed, but that it was the normal, regular, and natural outcome of the improvement in steel making and its concentrated powers were only such as were deemed to be necessary to successfully produce and market its product. To such inquiry and the proofs bearing thereon we now address ourselves.

The iron and steel trade of the United States has been a gradual sustained evolution. So far as the metallic base is concerned, such evolution may be broadly stated to have been from iron to steel, from steel to Bessemer steel, from Bessemer to open hearth. It is interesting to note that the next development (Volume 10, p. 4068; Volume 26, p. 11066)[1] bids fair to be from fuel smelting to electric smelting. These several stages of development have been accompanied by an abandonment and loss of equipment of great value (Volume 2, p. 1167; Volume 2, p. 732; Volume 10, p. 3859; Volume 10, p. 4077; Volume 13, p. 4963) and have necessitated vast further expenditures for new appliances to make the new open-hearth steel product. To illustrate, referring to a single one of the rapid revolutions in steel making — the removal of phosphorous in pig iron in the Bessemer or open-hearth processes by the substitution in the lining of lime for a silicon base— this single chemical fact, made public in 1885 (Volume 13, p. 4940), "practically revolutionized the iron industry, and by the year 1890 basic open-hearth steel had practically supplanted the use of wrought iron for all commercial purposes." Side by side with these rapid metallurgical changes of product there were at the same time going on radical changes in the mechanical handling of the product. To refer to but one of the many mechanical changes (Volume 13, p. 4940), "in the late 80's the introduction of electricity as a motive power also produced another revolution in the steel industry, so that practically all works had to be rebuilt if they desired to keep abreast of the recent developments of the art." But not only were metallurgical and mechanical changes taking place with regard to the different stages of metal production, but there developed at the same time a radical change, not of one product or one stage, but of all stages, in the way of rounding up

[1] These references are to volumes of testimony placed before the court.

plants, or, as it is called, integration, so that continuous processes could be carried on. In the old method of wrought-iron making there was no continuity of operation (Volume 12, p. 4934). The molten metal produced by a blast furnace was run into pig iron. This pig iron was transported to a rolling mill, where it was first puddled and then rolled into muck bar, which was again suffered to cool. The muck bar was again heated and rolled in finishing mills. As steel making progressed, its manufacture by various agencies (Volume 13, p. 4944) not necessary here to detail, became a continuous-fluid process. Instead of the metal being suffered to cool, it was continuously treated first as a fluid and then as an ingot, but always without entirely losing its initial heat. But these steel plants, with their continuous processes and their increased capacity to produce, serve to confront the finishing plants with grave problems in reference to their basic supplies.

Aside from legal questions of monopoly or competitive methods, was the formation of the United States Steel Corporation desirable? Inevitable?

5. General Motors Corporation

MANAGEMENT PROBLEMS IN LARGE-SCALE OPERATIONS

The General Motors Corporation was formed in 1908 to act as a holding company for the stock of several automobile manufacturing companies. In 1916 the corporation was reorganized and assumed the functions of directing the management of the subsidiaries. Each individual company or division, however, retained its identity as a complete financial unit in that it received its own income, made its own expenditures, and effected its own borrowing. The nature of the control by the General Motors Corporation was that of advice without definite, applicable means of enforcement of such advice. Future plans for each company were drawn up in conferences with the executives of the General Motors Corporation, but in actual practice the executive heads of each division were allowed to conduct the affairs of that division as they deemed wise. Thus, the control policy was one of decentralization. The results of this policy later proved to be unsatisfactory in respect of inventory accumulation, and a system of adequate central control, therefore, seemed to be essential.

In addition to the Buick, Cadillac, Chevrolet, Oakland, and Oldsmobile automobiles, and GMC trucks, the General Motors Corporation manufactured the following nationally advertised

trade-marked products: Fisher bodies, Delco light and power plants, Frigidaire, Hyatt roller bearings, New Departure ball bearings, Klaxon horns, Harrison radiators, Delco-Remy starting, lighting, and ignition systems, Jaxon rims, and AC spark plugs.

The company's plants were separated widely, as shown in Exhibit 1.

EXHIBIT 1

LOCATION OF GENERAL MOTORS CORPORATION'S PLANTS

State or Country	Number of Cities in Which Plants Were Located
California	2
Connecticut	3
Illinois	1
Indiana	2
Missouri	1
Michigan	7
New Jersey	3
New York	4
Ohio	3
Pennsylvania	2
Texas	1
Wisconsin	2
Canada	2

Under the supervision of the General Motors Export Company and General Motors, Limited, of Great Britain, which had sales branches in many parts of the world, the General Motors Corporation was developing extensive markets for motor cars abroad.

The weaknesses of the original production control policy were emphasized by the facts stated in the following quotation from the annual report to the stockholders of the General Motors Corporation for the year ending December 31, 1922.

On January 1, 1918, General Motors Corporation had total assets of $133,789,724, including $11,971,603 goodwill, patents, and copyrights. On January 1, 1923, assets total $522,335,034, including $22,370,811 goodwill, patents, and copyrights. At the earlier date the corporation consisted of the four passenger-car manufacturing divisions—Buick, Cadillac, Oakland, and Oldsmobile—and the General Motors Truck Division, having a capacity of about 223,000 cars and trucks per annum, as measured by maximum quarterly sales prior to 1918. The corporation owned no plant manufacturing small cars, and had no owned supply of accessories, such as lighting, starting and ignition sets, roller bearings, ball bearings, and so forth; it had no central experimental or development laboratories. Since January 1, 1918, the construction and expansion program has brought the corporation to a manufacturing capacity

of 750,000 passenger cars and trucks per annum, has placed it in position to manufacture all of its electrical equipment, including spark plugs and warning signals, all radiators, and antifriction bearings, wheel rims, steering gears, transmissions, engines, axles, and open bodies. Through its stock holdings in Fisher Body Corporation, it controls the manufacture of its supply of closed bodies. The program was not developed as a whole but resulted from the constructive planning of three years. Confidence in the future was not misplaced, as sales in the last nine months of 1922 were at the rate of 515,000 units per annum, or 70% of the present manufacturing capacity; and single months have reached 80% of capacity. Estimates for the future indicate that the full manufacturing output will be required at no distant date.

The total cost of carrying out this program may be summed up as follows:

Real estate, plant and equipment, tools, etc., acquired years, 1918 to 1920, inclusive	$214,605,825
Invested in allied and accessory companies	66,950,279
Total	$281,556,104

The cash for carrying out this work was supplied from several sources as follows:

FROM EARNINGS:			
Net earned income, three years, 1918 to 1920, exclusive of extraordinary write-offs of year 1920		$193,801,804	(100%)
Less: Federal taxes paid	$47,274,750		(24%)
Dividends paid	57,386,370		(30%)
Balance of earned income available for program		$ 89,140,684	(46%)
Net amount available from reserve accounts		13,394,246	
Total cash available for construction and expansion program, from operations of 1918 to 1920, inclusive		$102,534,930	(27%)
FROM SALE OF SECURITIES:			
Proceeds from sale of common stock		$ 98,494,835	
Proceeds from sale of 6% debenture stock		25,425,000	
Proceeds from sale of 7% debenture stock		10,998,700	
Total cash due for construction and expansion program from sale of securities, 1918 to 1920, inclusive		134,918,535*	(35%)

FROM FUND FOR BONUS, ETC.			
From funds set aside in cash for bonus, etc., but paid in newly issued stock		13,569,144	(3%)
Total cash available from all sources		$251,022,609*	(65%)
SECURITIES ISSUED IN PAYMENT FOR PROPERTIES WERE:			
Debenture and common stock	$122,141,520		
Purchase notes for part payment Fisher Body Corporation stock	9,840,000		
Mortgages assumed on properties purchased	1,629,070		
Total value of securities issued		133,610,500	(35%)
Total amount available for construction and expansion program		$384,633,199	(100%)

SUMMARY

Total funds provided	$384,633,199
Total expended on capital account	281,556,104
Balance available for working capital	$103,077,095
Net working capital, January 1, 1918	65,605,969
Net working capital provided under program	$168,683,064

* Of this total, only $3,881,879 remained uncollected on January 1, 1921.

As the net working capital requirement of today, operating under a schedule almost identical with that laid down for the year August, 1920, to August, 1921, is about $126,000,000, the net working capital available under the original program, about $168,000,000, should have been much more than sufficient for the lesser operations of the year 1921. From the above it is clear that full provision for the construction and expansion program of the years 1918 to 1920, including working capital, was made prior to the end of the year 1920. Therefore, this program was in no wise responsible for the financial difficulties under which the corporation labored during the latter part of 1920 and the year 1921. Explanation of these difficulties lies in another quarter.

OPERATIONS OF THE YEARS 1920, 1921, AND 1922

At the close of the year 1920 the net working capital, exclusive of notes payable, in use prior to the write-off of inventories, was $242,830,271 or $116,354,034 above the amount required (December, 1922) to carry more than double the production of the earlier period. This made it necessary to borrow a maximum of $82,784,824 (on October 31, 1920). The reduction of the surplus materials purchased at high prices, and of inventory and other commitments made prior to December, 1920, resulted in a total liquidation loss of $84,869,893.

This condition of affairs was not reached without anticipatory warning. In the month of March, 1920, the president presented to the

executive committee a schedule of proposed production made possible by the construction and expansion program then well on toward completion. He proposed that this schedule be adopted for the year August, 1920, to August, 1921. Though approved at the time, the schedule was revised in the month of May, 1920, to a proposed production almost identical with that in force during the last nine months of 1922. At this early date (May 13, 1920), the executive committee and finance committee noted the continued increase of inventories (to $167,965,641 on April 30, 1920). The chairman of the finance committee explained fully to those in charge of operations of the corporation the necessity of control, and, at his suggestion, a committee was appointed to allot among the divisions of the corporation the $150,000,000 considered available for inventories. The chairman also stated that it was necessary not to increase inventories beyond this amount during the succeeding twelve months.

The report of the inventory allotment committee was presented and approved before June 1, 1920. It was unfortunate that the rulings of the executive and finance committees and their cautions remained unheeded. As a result, inventories reached a total of $209,000,000 at the end of October, 1920, exceeding by $60,000,000 the allotments of the executive and finance committees and by $100,000,000 the amount in actual use during the active summer of 1922. This excess accounted for about 70% of the borrowings at that time.

It was doubly unfortunate that the spirit of the committee rulings was totally disregarded by a few of the divisions, the losses of which, due to expanded inventories and commitments for the future, amounted to $48,579,872, or much more than the total operating deficit of the whole corporation during the year 1921. The operating losses of these divisions during the liquidation and reconstruction period of 1921 added $15,330,938, making a total of $63,910,810 on their account.

Though the losses above enumerated were enormous, it should be fully realized that they were not typical of the operations of the corporation as a whole; in fact, they related to 10 divisions only out of a total of 34.

. . . . . .

Thus has General Motors Corporation, in the brief period of five years, expanded its plant investment five times under a program that was completely financed as work progressed. The wisdom of the plan is shown by the fact that there is now demand for 80% of the facilities provided, with promise of full use of these facilities at an early date. The plan is one that calls for no apologies for its inception and development, but it should be a source of satisfaction and pride to those who were responsible therefor.

Excepting for the year 1921, earnings of the corporation have been satisfactory. The year 1921 showed a shrinkage of 45% in number of cars produced, and 44% in volume of sales, when compared with an average of the two preceding years, a record not in itself abnormal, considering the general trend of economic conditions at that time. The greater part (68%) of the corporation's business in 1921 was satisfac-

tory though suffering losses through the rapid decline in values, but these losses, if averaged into the period in which they justly belong, leave a satisfactory profit for these years as a whole.

Narrowing now to the smaller part (32%) of the business of 1921, involving only four divisions now active, we find conditions accounting for 70% of the loans that were a matter of great concern during the winter of 1920-1921, and accounting for losses of $63,000,000. This localization of the source of trouble is a comfort, for it reduces the likelihood of recurrence. There seems to have been no real necessity for the management of the divisions involved in losses to have faced greater troubles than those experienced in other divisions of the corporation where conditions were satisfactory.

Three considerations make recurrence of the 1920-1921 disaster seem unlikely, if not impossible. First, it is doubtful if the sharp decline in prices witnessed during that period will recur. The extreme rise was due to the war, and deflation was more precipitate than ever before known. Second, a complete system of inventory and purchase control has been established in the corporation. This system embraces a monthly statement of inventories and future commitments beyond which the divisions are not permitted to proceed without specific authority. Under this system a shrinkage in business such as occurred in the years 1920-1921 could not result in a repetition of the inventory troubles of those years. Third, the system of consolidated cash control installed during the year 1922 makes possible more effective use of the funds of the corporation.

The purpose of the above recital is to show definitely that the troubles of past years were not related to an ill-financed expansion program or to delay in receiving the proceeds of financing. It is quite certain that the funds provided before the close of the year 1920 were sufficient to carry out the whole program and also to finance new business offered during the year 1921 and the first half of the year 1922. It is equally certain that disregard for control of inventories and purchase commitments cost the corporation a very large sum of money, of which the greater part might have been saved by proper safeguards in divisions now differently managed. Further, it is important to the stockholders to know that the financial misfortunes of the corporation in the past were only slightly related to the manufacture and sale of its products, but that these misfortunes were directly related to loose and uncontrolled methods which are now corrected.

The company's problem was to devise a method of control so centralized that the mismanagement of 1921 might not be repeated. At the same time, however, it was necessary to allow the chief executives of the different divisions adequate responsibility and freedom of judgment. It was necessary, furthermore, that in an organization so large and widely diversified as the General Motors Corporation, the chief executives be free to decide ques-

tions of fundamental policy rather than of administrative routine, and that a clear and well-recognized distinction should be made between such questions.

1. What economies should the corporation have expected to obtain by a policy of expanding its scale of operations?

2. To what factors (aside from the sudden price change) would you attribute the apparent conflict between large-scale operation and effective management control?

IV

OWNERSHIP OF BUSINESS

Black, 483-510; Bye, 139-154; Clay, 97-106; 86-88; Edie, 464-492; Ely, 201-214; Fairchild, I, 94-119; Gide, 180-189; Marshall, 291-304; Rufener, 74-85; Seager, 158-165; Seligman, 96-99, 329-332; Taussig, I, 15-29, 80-91, 156-166; Turner, 527-553.

1. Ordway Bakery Company

ORGANIZATION OF A BUSINESS ENTERPRISE

In April, 1924, Mr. E. A. Ordway asked a law firm for legal advice in regard to forming a partnership. All Mr. Ordway's experience had been in the bakery business, and for 15 years he had been the head of his own bread- and pastry-making enterprise. He gradually had built up his organization until in 1923 the sales amounted to about $330,000. The annual net profit then was about $50,000.

Starting with small resources saved from his wages while employed by others, Mr. Ordway by successful management had strengthened his credit and had been able to borrow constantly larger sums from banks. His borrowing requirements never had exceeded $35,000. At no time had it been necessary to take other men into partnership in order to obtain greater capital.

Mr. Ordway was about 70 years old. He had 2 sons, aged 33 and 35, who acted as salaried assistant managers in the business, and 3 daughters. The Ordway Bakery Company was an individual proprietorship and Mr. Ordway received all the profits. As proprietor of the business, he was personally liable for the performance of all contracts that were entered upon for the purposes of the business, and he also was liable, to the full extent of his private estate, for the debts of the enterprise. Thus, if for any reason the business assets were inadequate to pay obligations, the creditors could lay claim against Mr. Ordway's home and other possessions, including his private bank accounts. Although he shared his profits with his sons and daughters, Mr. Ordway paid

income taxes[1] on them as though they were his personal income. The taxes increased proportionately with the amount of income. Mr. Ordway considered reorganizing his enterprise for three reasons: first, he wished to divide the profits among his children in order to avoid the surtaxes on his income; second, he wished to provide that the control of the business would be divided between his sons after his death, and that his three daughters would receive a small share of the profits; and third, he wished to retain full control of the company as long as he lived. With these ends in mind, Mr. Ordway planned to form a partnership, making his sons junior partners. According to this plan the profits would be divided. Since the share of income going to each individual would be much less than Mr. Ordway previously had received alone, the income surtaxes would be reduced. Mr. Ordway's control of the company, furthermore, would be assured until he died.

To make the partnership effective, Mr. Ordway and his two sons would join together to carry on the business for their common benefit, each contributing either property or services, and each obtaining an agreed share in the profits. Probably each would assume, likewise, liability for all losses incurred, and each, individually, would have full power to bind the others in any business contract undertaken. New partners could be taken into the firm only with the consent of the existing partners.

When Mr. Ordway requested the law firm to draw up the papers necessary for the formation of a partnership, the lawyers suggested that he should also consider the advantages of incorporation before deciding upon the formation of a partnership. The inheritance taxes on Mr. Ordway's share of the company would be the same under either plan, since the amounts to be inherited would be identical. It was estimated that legal fees, stamp taxes, and a charter necessary for incorporation would cost the com-

[1] Briefly, for a resident or citizen of the United States, an income tax is a tax on the individual's net income, when his total income minus specified deductions is in excess of a minimum figure. This minimum figure can be varied from year to year by enactment of new laws, and it is greater for married than for unmarried persons. At the time of this case, the minimum for unmarried persons was $1,000; for married persons, $2,500 plus $400 for each dependent person in the family. The tax was composed of two parts, a "normal" tax and a "surtax." The normal rate was stated to be 8% on all net income above the minimum figures; for residents or citizens of the United States, it was 4% on net income up to $4,000, and 8% on net income above that amount. In addition on net incomes of $6,000 and above, the surtax rates were applied. The amount of surtax increased cumulatively as net income rose above $6,000. For a net income of $25,000, for instance, the total surtax was $980; for one of $50,000, it was $5,420.

pany about $1,000. A corporation, as an artificial entity, could be created only by compliance with the state law, which provided for the granting of corporation charters for definite periods of years, subject to renewal. Thus a corporation would be a creature of local laws, having no existence otherwise. It would have only such powers as were conferred by its charter. It would be an entity wholly separate from the individuals forming and controlling it.

Ownership of the corporation would be represented by those who subscribed capital, in money, goods, or services, and who received shares of the stock which would be authorized and issued upon incorporation. Each stockholder would be entitled to share in the profits according to the proportion of shares of stock he held. His liability, however, would be limited to the amount of his investment; no claim could be brought against a stockholder's private property by creditors of the corporation.

Control of the corporation would be vested in a board of directors elected by the stockholders. The directors, in turn, would appoint officers, such as a president, treasurer, and secretary, to manage the affairs of the corporation subject to the approval of the directors. In the election of directors, each share of stock would have an equal vote. Shares of stock would be readily transferable, by sale or by gift, according to the wishes of the owners of the shares.

As to income taxes, in computing its net, taxable profits a corporation could deduct from income the salaries paid to its officers, as well as other expenses. On the remaining net profit above an exempt amount of $2,000 a Federal tax of 12½% per year would be payable, in addition to a small state tax. The profits then remaining could be paid to the stockholders in whole or in part as dividends. Such income would be exempt from the individual's normal tax, but would be included in computing the surtax.

The lawyers informed Mr. Ordway that so far as taxes were concerned, incorporation of his business would be somewhat more burdensome than if he operated as sole proprietor, or formed a partnership.

Although the Ordway Bakery Company had grown substantially, Mr. Ordway and his two sons saw no need of obtaining other business men to aid in the management, nor of securing additional capital.

Aside from the matter of income taxation, which form of business organization was most suitable?

2. Griffin & Near

SECURITIES TO PROVIDE CAPITAL FOR AN INDUSTRIAL CORPORATION

In May, 1922, the Nathon Company, a corporation which manufactured machinery for weaving all kinds of cloth, desired to raise about $2,000,000 in cash to pay off current bank loans that had been incurred to finance the construction of extensions to the plant and the purchase of equipment. It was proposed that Griffin & Near, a firm of investment bankers,[1] should purchase $2,000,000 of noncumulative preferred stock,[2] to be issued by the Nathon Company. The shares would be resold by the investment house to investors. The partners of Griffin & Near were undecided as to the advisability of purchasing the preferred stock, and recommended an issue of bonds.[3]

[1] Investment bankers, usually operating as partnerships, in general act as financial middlemen through whom corporations are able to obtain capital funds needed for considerable periods of time, or for permanent use. These bankers buy the securities of corporations—bonds, stocks, and notes—for resale, at a profit, to investors. The investors are individuals, banks, or business organizations with savings to invest.

[2] Stock is of two general classes, common and preferred. Dividends on common stock are often highly irregular, varying with the current profitableness of the enterprise. Preferred stocks in general are intended to assure greater regularity of income, through having a preferential claim on such of the corporate income as remains after paying all expenses of operation, including interest to creditors. In view of this preferential claim, the rate of dividend is fixed and thus the owner cannot expect to receive any of the unusually high returns often paid on common stock.

Preferred stock dividends may be cumulative, or noncumulative. If the former, any dividends omitted in one year must be paid off before common stock dividends can be paid.

Subject to the preferences and limitations of the provisions under which preferred stocks are issued, the owners thereof have proprietary rights just as have the owners of common stock.

[3] A corporation bond is a formal promissory note of the issuing corporation, usually secured by the pledge of all, or portions of, the corporation's assets. Such assets usually are physical plant and equipment, but may consist of securities of other corporations. Some bonds, called "debentures," have as security only the general credit of the corporation. The corporation contracts to pay interest generally at fixed rates, to bondholders during the life of the bond, and to repay the principal amount at some specified time, at which time the bond is said to mature. In exceptional instances, bond interest may be variable according to agreed stipulations; there may be no pledge of actual property; or there may be no date of maturity. Some bonds, furthermore, are issued with the provision that they are "callable" under given conditions; that is, the corporation may redeem them, usually at a premium, before the maturity date.

Bonds differ from stocks basically in that they give the holders specific claims

The Nathon Company's assets and liabilities, as well as earnings, seemed to justify the proposed issue of $2,000,000 of 7% preferred stock. During the fiscal year ending March 31, 1922, dividend requirements on the $780,000 of preferred stock already outstanding plus the proposed issue of $2,000,000 had been earned one and one-half times, over and above payment of interest charges on current bank loans. The net worth of the capital stock of the company, according to balance sheet figures, was $125 a share. In the event of liquidation, the preferred stock was entitled to preference as to assets to the amount of $110 a share. The plant was valued on the books of account at only $1,542,000, but independent engineers estimated that it was worth more than $3,000,000. The company had issued no bonds and had no funded debt. Current assets amounted to $2,785,000. The outstanding preferred stock was protected by provisions which prohibited an increase in the authorized amount of preferred stock, or the creation of a mortgage on the property, without the consent of 75% of the preferred stockholders.

The company had a capable management. On the preferred stock, 7% dividends had been paid regularly since 1916. On the common stock, 6% had been paid since 1916, with 1% extra in 1919, and 2% extra in 1920. The company's patents, although of substantial value, were carried in the accounts at $1. Annual depreciation charges on the property were setting aside enough of each year's income to provide for replacement of the entire plant in 20 years. The company had ample cash on hand.

In May, 1922, the average of stock prices was 36% higher than in June, 1921. Business activity was increasing, and commodity prices were rising. Confidence rather than pessimism prevailed among business men. In 1921 the cost of capital raised through the issue of preferred stocks of industrial companies of this type was about 9% a year, as measured by the ratio of dividends to the capital sums obtained by sale of the stocks. In May, 1922, the Nathon Company could raise the required capital at a cost of about 7¾% annually.

for interest and for repayment of principal. In case of liquidation of the corporation, bondholders' claims must be met before stockowners can receive any of the sums realized. Bondholders ordinarily are regarded as creditors with strictly defined claims; stockholders, on the other hand, are the owners of the business, entitled to whatever profits, or assets in case of liquidation, remain after all creditors are satisfied.

There were several reasons, however, for Griffin & Near's wish to sell first mortgage bonds rather than preferred stock. Most of Griffin & Near's customers were conservative investors who were not accustomed to the wide price fluctuations common to stocks. The partners were of the opinion that preferred stocks were not a sufficiently safe investment for a majority of their customers. The fixed rate of dividends on most preferred stocks eliminated the possibility of unusually large profits which in common stocks compensated for the risk involved. The Nathon Company, moreover, was an industrial company engaged in the manufacture of factory equipment, and its earnings, therefore, fluctuated widely from year to year. The chief requirement of a sound preferred stock was regularity of earnings.

The partners of Griffin & Near realized that except for the greater cost of the capital, the issue of preferred stock, from the Nathon Company's viewpoint, was preferable to the issue of bonds. Bond interest would be a fixed expense that must be paid, regardless of temporarily unprofitable operations. Such payments would then be a burden that might hamper the corporation's activities. Preferred stock dividends, on the other hand, could be suspended at the discretion of the directors. The investment firm was convinced, however, that when a conflict of interests existed between its customers and the companies it financed, the firm's first duty was toward its customers. The profit on the sale of preferred stock was greater than on bonds. Refusal to accept the preferred stock proposal might cause the firm to lose not only the opportunity to negotiate the current financing, but also the possibility of developing subsequent profitable relations. The partners, however, were willing to abandon the project completely rather than issue a security in which they did not have confidence.

Griffin & Near, accordingly, proposed the issue of 7% first mortgage bonds,[1] to be offered to the public at 99 and interest to yield 7.1% on the price paid by investors.

1. Contrast the effects of the two plans on the ownership of the company.

[1] First mortgage bonds are secured by a mortgage or deed of trust, which is intended to convey the physical property held under the mortgage to a trustee for the benefit of the bondholders in the event that the corporation fails to pay the interest charges or to repay the principal upon maturity.

2. Would you have recommended that the Nathon Company issue additional preferred stock, or first mortgage bonds?

3. Do you agree that the investment firm should have favored the interests of investors, when a conflict of interests arose between the issuing corporation and the buyers of its securities?

3. Loughredge Company—Trustees

transactions in securities

One of the functions of the Loughredge Company, located in Philadelphia, was the management of trust estates. Its total funds amounted to $5,000,000. The executives of the company, believing that the prices of stocks moved through recurring cycles, invested the trust funds in stocks at what they considered low prices, for the purpose of selling the stocks at higher prices. When prices of stocks were falling, the company's executives invested in bonds or notes which were about to mature and which, therefore, would be paid for at face value within a short time. Gains from successful buying and selling of stocks were greater than were dividends and interest from securities, and, therefore, the executives were able to increase the principal values of the estates.

Purchases and sales were made through stock brokerage firms. In those firms at least one partner was a member of the New York Stock Exchange or the New York Curb Market. Through such memberships the firms were able to execute the orders of the Loughredge Company.

In October, 1923, $250,000 of the $5,000,000 trust fund had been used to buy stocks of 10 oil companies chosen from the group of companies formerly owned or controlled by the Standard Oil Company before its dissolution. These stocks were sold either on the New York Stock Exchange or the New York Curb Market. By February, 1924, the average price of this Standard Oil group was approximately 30% higher than it had been when the purchase was made. All but one of the executives thought that prices would rise still further, and they decided that the time to sell had not arrived. Almost immediately afterward, however, prices declined, and in November, 1924, the stocks were still in

the company's possession. During that November, prices again increased rapidly until they were within 10% of their prices of the preceding February.

The executives then considered whether they should sell the stocks or hold them for further price increases. It was thought that in the long run prices of stocks reflected changes in the earnings per share of the individual companies. The stock of a company might sell, for instance, at between 6 and 8 times the amount of its annual net earnings per share. Many other factors, however, had important influences on stock prices, such as the amount and regularity of dividends paid; the stability of the industry and of the company; the amount of capital available for investment or speculation; interest rates; and changes in business conditions. There were differences of opinion as to whether changes in stock prices reflected past events or were indicative of future events. It was often said that stock market transactions were a barometer of impending changes in business affairs.

When a company sought to have its capital stock listed on the New York Stock Exchange, so that the shares could be bought and sold subject to the rulings of the Exchange, the company was required to furnish information including the following: Title of corporation; state authorizing incorporation, and the date, duration, and rights of the charter; kind of business, with any special rights or privileges granted to the directors by charter or by-laws; description of the capital stock, as to amount, nature of liabilities and voting powers, dividend rate and par value; history of corporation and predecessors; list of constituent, subsidiary, owned or controlled companies, with pertinent facts concerning them; liabilities, nature and amount; character and amount of output; financial statements, income and balance sheets; names of officers and directors, location of offices; place and date of annual information.

In addition, companies owning or operating oil and gas wells were required to describe the important phases of their operations and properties, and their policies as to depletion, acquisition, and development of new properties. Many other facts also had to be reported.

Applications to list bonds had to comply with the requirements for capital stock and, in addition, to give detailed information

concerning the bonds, such as amounts and authorization of issue, maturities, interest rates, purposes, and retirement provisions.

The applicant corporation also agreed with the Stock Exchange to publish at least once a year, and submit to the stockholders, a statement of its physical and financial condition, an income account covering the previous year, and a balance sheet showing assets and liabilities at the end of the year; and to publish promptly to holders of bonds and stocks any action in regard to interest on bonds or dividends on shares.

Provisions also were made for the prompt transfer of shares and bonds sold or purchased on the Exchange. The right to make transactions in securities in the New York Stock Exchange was restricted to members of the Exchange, who under the regulations acted as brokers for outside customers, charging stated commissions for buying and selling. By permitting the listing of a security the Exchange assumed no responsibility whatever for the financial success of the corporation.

Transactions were made under the name of the broker. The customer either advanced the necessary funds, or the brokerage

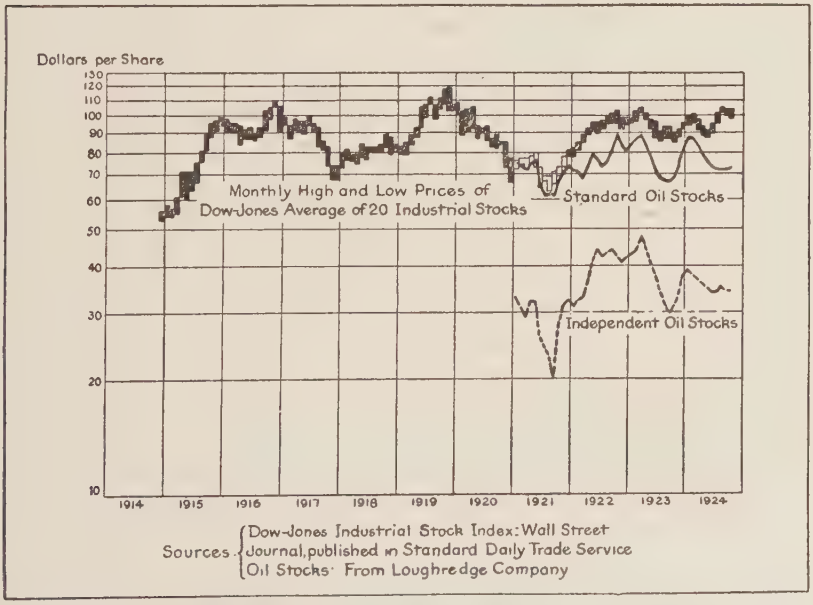

Exhibit 1: Dow-Jones industrial stock price index, monthly indexes of Standard Oil and Independent Oil stock prices.

EXHIBIT 2

DOW-JONES INDUSTRIAL STOCK PRICE AVERAGES*

MONTHLY HIGHEST AND LOWEST DAILY AVERAGE PRICE OF 20 INDUSTRIAL STOCKS, DECEMBER, 1914, TO OCTOBER, 1924

(Unit: Dollars per Share)

	1914		1915		1916		1917		1918		1919	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Jan.			58.52	54.63	98.81	90.58	99.18	95.13	79.80	73.38	83.35	79.88
Feb.			57.83	54.22	96.15	90.89	94.91	87.01	82.08	77.78	85.68	79.15
Mar.			61.30	55.29	96.08	90.52	98.20	91.10	79.93	76.24	89.05	84.04
Apr.			71.78	61.05	94.46	84.96	97.06	90.66	79.73	75.58	93.51	88.84
May			71.51	60.38	92.62	87.71	97.58	89.08	84.04	78.08	105.50	93.26
June			71.90	64.86	93.61	87.68	99.08	94.78	83.02	77.93	107.55	99.56
July			75.79	67.88	90.53	86.42	95.31	90.48	83.20	80.51	112.23	107.16
Aug.			81.95	76.46	93.83	88.15	93.85	83.40	83.18	80.71	107.99	98.46
Sept.			90.58	80.40	103.73	91.19	86.02	81.20	84.68	80.29	111.42	104.99
Oct.			96.46	88.23	105.28	98.94	83.58	74.50	89.07	83.36	118.92	108.90
Nov.			97.56	91.08	110.15	105.63	74.23	68.58	88.06	79.87	119.62	103.60
Dec.	56.76	53.17	99.21	94.78	106.81	90.16	74.38	65.95	84.50	80.44	107.97	103.55

* *Wall Street Journal.* Table published in *Standard Daily Trade Service,* October 20, 1924, p. 12. October data from November issue.

firm made arrangements for financing the purchase or the sale.

Purchasers for a rise in price were known as "bulls." Those who sold securities in anticipation of a price decline were called "bears." A "short" sale was the sale of securities not yet owned, by a person who expected the price of a security to decline so that it could be bought later at a profit. Since all securities had to be delivered to the buyer on the day following the purchase, a broker who made a short sale for a customer borrowed from some owner the shares needed for delivery, agreeing to return the shares later when the customer had bought them outright to close the transaction. As security for the loan, the borrower advanced the current market price of the security to the lender.

Securities could be bought outright, or on margin. Stock exchange firms often agreed with customers to buy stocks or bonds if the customer would advance a part of the price, the firm supplying the balance either from its own capital or by obtaining loans with the security as collateral. Such loans usually were made by banks having surplus funds to put out "on call." That is, the loans so made could be called in at any time. Interest rates on such loans fluctuated with the variations in the supply of funds available for security transactions and the strength of the demand for loans on securities.

EXHIBIT 2 (*Continued*)

DOW-JONES INDUSTRIAL STOCK PRICE AVERAGES

MONTHLY HIGHEST AND LOWEST DAILY AVERAGE PRICE OF 20 INDUSTRIAL STOCKS, DECEMBER, 1914, TO OCTOBER, 1924

(Unit: Dollars per Share)

	1920		1921		1922		1923		1924	
	High	Low	High	Low	High	Low	High	Low	High	Low
Jan.	109.88	101.90	76.76	72.67	82.57	78.59	99.42	96.96	100.66	94.88
Feb.	103.01	89.98	77.14	74.34	85.81	81.68	103.90	97.71	101.31	96.33
Mar.	104.17	91.68	77.78	72.25	89.05	85.33	105.38	102.36	98.86	92.28
Apr.	105.65	93.16	78.86	75.06	93.46	89.08	102.70	98.38	94.69	89.18
May	94.75	87.36	80.03	73.44	96.41	91.50	98.19	92.77	92.47	88.33*
June	93.20	90.16	73.51	64.90	96.36	90.73	97.24	87.85	96.37	90.15
July	94.51	86.85	69.86	67.25	97.05	92.90	91.72	86.91	102.14	96.38
Aug.	87.29	83.20	69.95	63.90	100.78	96.21	93.70	87.20	105.57	101.50
Sept.	89.95	82.95	71.92	66.83	102.05	96.30	93.61	87.89	104.95	100.76
Oct.	85.73	84.00	73.93	69.46	103.43	96.11	90.45	85.76	104.08	99.18
Nov.	85.48	73.12	78.01	73.44	99.53	92.03	92.88	88.41		
Dec.	77.63	66.75	81.50	78.12	99.02	95.03	95.61	92.64		

* Stocks used since May 12, 1924, are American Can, American Car and Foundry, American Locomotive, American Smelting, American Sugar, American Telephone and Telegraph, American Tobacco, Anaconda Copper, Baldwin Locomotive, du Pont Power, General Electric, Mack Trucks, Sears Roebuck, Standard Oil of California, Studebaker, United States Rubber, United States Steel, Westinghouse, Western Union, Woolworth.

The executives of the Loughredge Company believed that the general trend of stock market prices would influence somewhat the prices of oil stocks, whether the oil industry was in good or bad condition. The executive in charge of statistics selected Dow-Jones Industrial Stock Average as his index of the stock market. This index was composed of the common stocks of 20 companies, which represented approximately 13 different industries. The index was computed in the following manner. Each day the prices at which the last sale of each of the 20 stocks was made on the New York Stock Exchange were averaged arithmetically. At the end of each month, the highest and lowest daily closing averages during the month were selected to show the monthly range of the average prices.

The data for the average of 20 stocks since December, 1914, as used by the Loughredge Company, are plotted on the chart in Exhibit 1 and are tabulated in Exhibit 2, together with a list of the stocks used in forming the index.

The company also used the weekly closing quotations for five Standard Oil Company stocks to compute one oil stock price index, and the weekly quotations for eight independent oil company stocks for computing a second price index. These quota-

tions were obtained from the *Commercial and Financial Chronicle,* which published the highest and lowest quotations and the closing price for the week on every stock listed on the New York Stock Exchange and the New York Curb Market. The monthly indexes of oil stock prices were obtained by averaging the first four weekly index prices of each month. These monthly data and the list of stocks used are shown in Exhibit 3 and are plotted in Exhibit 1.

EXHIBIT 3

MONTHLY AVERAGES OF CLOSING PRICES OF FIVE STANDARD OIL AND EIGHT INDEPENDENT OIL STOCKS*

(Unit: Dollars per Share)

	1921		1922		1923		1924	
	Stand.	Ind.	Stand.	Ind.	Stand.	Ind.	Stand.	Ind.
Jan.	75	33	71	31	85	43	88	39
Feb.	73	31	71	32	87	44	88	38
Mar.	72	29	68	33	89	48	83	37
Apr.	75	32	73	36	83	44	79	36
May	77	32	79	41	78	41	77	35
June	66	26	77	44	72	38	73	34
July	61	24	73	42	68	35	72	34
Aug.	62	23	75	43	68	32	72	35
Sept.	61	20	81	44	67	30	72	34
Oct.	67	28	89	42	69	30	73	34
Nov.	72	31	83	41	74	33		
Dec.	74	32	80	42	81	37		

* Source: Loughredge Company.

The five Standard Oil stocks were: Atlantic Refining, Standard Oil of California, Standard Oil of New Jersey, Standard Oil of Indiana, Tide Water Oil.

The eight independent oil stocks were: California Petroleum, Cosden and Co., Marland Oil, Pacific Oil, Pan-American Petroleum, Phillips Petroleum, Sinclair Consolidated, Texas Company.

In addition to the information described above, the Loughredge Company compiled and studied current facts concerning the oil industry. These studies included weekly figures for crude petroleum production, in barrels, and monthly figures for barrels imported and exported. From these figures, the rate of consumption was estimated each month. The number of new wells completed was recorded by months. Monthly average prices of crude petroleum in the Kansas-Oklahoma and in the Pennsylvania fields were available to the company. These figures, taken from financial, governmental, and trade publications, were tabulated and charted by the company.

On the basis of this information, the company's executives undertook to estimate future changes in the prices of oil company

stocks. It had been observed that prices of crude petroleum rose in response to declines in the available supply if there was no corresponding decline in consumption. Buyers of securities seemed to bid more strongly for shares in oil companies when petroleum prices were rising, because rising petroleum prices were thought to be followed by increased rates of earnings for oil companies.

During November, 1924, the prices of stocks increased rapidly. The executives of the Loughredge Company estimated that the stock price index for the group of Standard Oil companies was within 10% of its high level of February. The index price of industrial stocks was above its February level. While the price of petroleum was not so high as it had been in February, the executives believed that the seasonal variation would cause the price to continue to increase during the winter months, and that this should affect the prices of stocks. The number of wells completed monthly was decreasing, although the data indicated that this was a usual seasonal movement. Announcement had just been made, however, that one of these new wells had opened a pool capable of producing 200,000 barrels of petroleum daily.

On the basis of their analysis, the executives concluded that there would be further increases in prices of stocks of Standard Oil companies. They decided, therefore, that they should hold them for further price increases.

1. In this case, was the Loughredge Company performing an economically desirable function?

2. How does the existence of an organized securities market, such as the New York Stock Exchange, benefit

a) Companies whose securities are listed there?

b) Investors?

c) General economic progress?

4. New York Stock Exchange[1]

INVESTIGATION OF STOCK OPERATIONS

Baldwin Locomotive, which advanced to another record high price for all time yesterday, has been given a clean bill of health by the

[1] Reported in *Boston Evening Transcript*, June 25, 1927. Reprinted here by permission.

business conduct committee of the New York Stock Exchange, after a thorough investigation, it was learned yesterday.

The business conduct committee went quietly to work on a Baldwin investigation within the last few days. No circular was sent to members asking for their positions in the stock, but information was obtained by the committee from several sources. No charge of unethical operations in the stock could be substantiated. No announcement that it was making this investigation was made by the business conduct committee, as such information might have led to an unjustified drive against the shares, and now that all doubt has been cleared up, trading will proceed as before.

With only 200,000 shares of common stock outstanding and about three-fourths of this securely held in strong boxes as investments of small and large stockholders, a very small supply of stock is circulating about the Street for the use of market operators. The result has been that comparatively little buying has been immediately reflected in a rise of Baldwin shares. It is probable that the supply in the Street does not exceed 50,000 shares, and this amount is turned over in an ordinary day's trading. During periods of great activity it will be turned over nearly twice in a single day.

Those most interested in the stock's behavior have kept the market free and open by keeping sufficient buying and selling orders always on the books of the specialists. The result is that while shorts may be squeezed tightly from time to time, there has been no corner[1] in the stock.

In the same manner it has always been possible for the shorts to borrow the necessary shares to make delivery. No premium is charged, and while the recent soaring of the shares has probably driven a large part of this short interest to cover, the remaining bears never have encountered any difficulty in borrowing. Under these conditions no objections could be raised to the actions of the stock and a clean bill of health was a foregone conclusion.

1. Was it to the advantage of the Baldwin Locomotive Company to have its stock listed on the New York Stock Exchange?

2. If the investigation had disclosed a corner in this stock, what action should the Stock Exchange authorities have taken?

[1] A "corner" results when one or more operators secure such control of the immediate supply of any product or property as enables the operators to advance prices arbitrarily. The supply is thus strictly controlled, and to that extent the market is no longer free to reflect the usual forces of supply and demand. Corners usually are obtained by operations on boards of trade or stock exchanges, and by dealings in options and futures. The obtaining of a corner is greatly facilitated if there is a large number of "short" sale contracts outstanding. A short sale is a sale by a person who does not have the stock in his possession but whose broker borrows the stock and makes delivery. Subsequently the short seller hopes to "buy in" the stock at a price below the selling price and turn back the shares to the person from whom they were borrowed.

3. What considerations would lead a speculator to "sell short"? Are such sales gambling?

4. Define speculation.

5. The Bell Telephone Securities Company

SALE OF SECURITIES

The Bell Telephone Securities Company was incorporated in Delaware in September, 1921, with a capital of $1,000,000, all of which was owned by the American Telephone and Telegraph Company. It had the usual broad charter rights of an investment or securities company. This company was added to the group of companies which form the Bell Telephone System[1] in order to secure a wider distribution of the securities of the system.

The directors of the American Telephone and Telegraph Com-

[1]The Bell Telephone System

Since the invention of the telephone, it had been the purpose of the American Telephone and Telegraph Company and its predecessor organizations to create and maintain telephone service in any part of the United States for communication with any other part of the United States. The Bell System embraced the agencies through which that was accomplished. These were:

1. The American Telephone and Telegraph Company, which maintained the headquarters organization of the Bell System. By contracts it was charged with the performance of certain services which had grown in effect into the development of a single policy and program for the Associated Companies, and which included furnishing and maintaining telephone instruments, providing interconnection between regional operating companies by long-distance lines, temporary financing and aid in permanent financing, development of the art, patent protection, standardization of methods and materials, and other services which could be more efficiently carried on by one for all than by each individually. It owned and operated the National System of Long-Distance Lines.

2. The Associated Telephone Companies, in which the American Telephone and Telegraph Company was a stockholder, owning directly or indirectly all the common stock of 13 companies, a majority in 10 companies, and a minority in 2 companies.

These Associated Companies operated the local service and the local telephone lines in communities served by 11,242,318 stations.

3. The Connecting Companies, which were locally owned and operated 4,664,232 stations.

4. The Western Electric Company, Incorporated, the manufacturing and supply organization of the Bell System; in this corporation the American Telephone and Telegraph Company was a stockholder to the extent of over 98% of the common stock.

5. The Bell Telephone Securities Company, organized to facilitate investment in the stock and securities of the Bell System. Of this corporation the American Telephone and Telegraph Company owned all the stock.

The Bell System maintained connections with The Bell Telephone Company of Canada, in which the American Telephone and Telegraph Company was a minority stockholder, and with the Island of Cuba through cables of a company of which the American Telephone and Telegraph Company owned 50% of the stock.

pany in their annual report to the stockholders for the year ending December 31, 1921, stated in reference to the purpose of organizing the Bell Telephone Securities Company:

There is, relatively speaking, a widely distributed ownership of the Bell System. The savings of several hundred thousand men and women throughout the Union have contributed to the building of the System. There were at the end of 1921 more than 186,000 owners of stock of the American Telephone and Telegraph Company. There are many other thousands of individuals who are financially interested through ownership of your company's bonds and notes and through holdings of the securities of the Associated Companies.

We believe that a wide distribution of the securities of the System geographically and among individuals is advantageous both to the public and to the System. The securities furnish safe investments, yielding reasonable rates of return; with a wide financial foundation, better understandings and relationships result. Recent events have made it clear that there is a large volume of income which might be saved and applied to constructive development if many more people, especially those of small means, could be afforded the opportunity and incentive to save and to invest wisely. This view is emphasized by the result of the recent study which indicates that of an estimated national income in 1919 of $66,000,000,000 nearly 70% went to individuals who would not ordinarily be considered as possible investors.

It is our desire particularly to interest telephone users financially in the System. They can acquire stock of the American Telephone and Telegraph Company in the market and in some cases they can secure preferred stocks of the Associated Companies. We are inviting them to become partners in the business.

This is more than a plan to lay wider financial foundations for the Bell System, to raise some of the money needed for extensions of the service, or to create better relationships. It will contribute to the promotion of national thrift, to the spread of a broader knowledge of investment, and to the development of machinery to assist investors. It will facilitate and strengthen the activities of all sound and helpful investment agencies. The nation is our customer. Whatever promotes the prosperity of the nation promotes our prosperity.

The attainment of our object will require continuous, intelligently directed effort. We have felt the need of an organization whose functions should be to disseminate information about Bell System securities to the public, especially to Bell telephone subscribers, and when desired, to advise intending investors and to facilitate their transactions in our stocks and securities. The Bell Telephone System occupies a unique position, and one not generally understood, because it differs so widely, in form of organization and in relation to the public and the investors, from other enterprises to which it might be expected to be similar.

In the annual reports, which have grown to be vehicles of information to the public as well as to the stockholders, we have attempted to

set forth the reasons why the structure of the System is what it is, what the relations of the parts are to each other, and all the other facts which should be available to present and prospective investors in the securities of the System. But the annual report is a periodical, while the history of the progressive utility must be a continuous story. No single issue of the report can tell the whole story without frequent repetition and continually increasing bulk.

Therefore, with the conviction that it may, helpfully to the System, perform these services, we have organized the Bell Telephone Securities Company.

Since its incorporation, the Bell Telephone Securities Company had directed its activities, first toward securing wider distribution of the American Telephone and Telegraph stock, and second toward cooperating with the Associated Companies in the distribution of their stocks. In its attempt to set up machinery to aid the small investor, it encouraged its employees in the beginning to speak to their friends and acquaintances about the merits of the American Telephone and Telegraph stock as an investment. At the same time it arranged with bankers and brokers throughout the country to assist the small investor to acquire the stock upon an introduction from one of the telephone employees. In approximately a year the results of this plan were that 27,562 persons purchased 429,129 shares of the American Telephone and Telegraph stock.

After following this plan for about a year, the officials of the securities company believed, as a result of their experience, that there were a great many small investors who had no banking connections and who would prefer to make the purchase of stock through the employees of the Bell System whom they knew and in whom they had confidence. In addition, the existing plan did not carry the prospective customer far enough along to insure purchase. Accordingly, the so-called "direct sales plan" was inaugurated. Under this plan the securities company accepted applications for American Telephone and Telegraph stock at the closing price of the stock on the New York Stock Exchange on the day following the day on which the application was received, plus the then prevailing stock exchange commission, which was 25 cents a share and which, under this plan, went to the broker. The securities company charged nothing for its service. It did not sell new stock or treasury stock. The orders received under this plan were placed in the open market with a reputable broker.

An added feature of the direct sales plan was to permit the purchase of stock on a partial-payment basis. Shares could be purchased at the same price and at the same brokerage charge for a $10 deposit on each share and payment of $10 a share per month. The securities company allowed 6% per annum on all payments made under the partial-payment plan, receiving the dividends on the stock during the time payments were being made. It would accept cancellation of partial-payment orders, before they were fully paid, returning to the customer either the total amount paid, plus 4% per annum to the time of cancellation, or the number of shares which the amount paid in would pay for at the agreed price, any balance to be refunded in cash. If on the day of such cancellation the last sale of the stock was made on the New York Stock Exchange at a price less than the price to be paid for the shares canceled, the applicant was charged with the difference. It was believed that this plan would tend to secure the wide distribution of stock desired as prospective customers would not be lost through a bank's inability to supply them; an employee of the company would be able to secure the customer's order at the time he was interested. The result of the direct sales plan for the period of about 27 months ending August 22, 1925, was that employees of the Bell System assisted 114,698 persons in purchasing 613,399 shares of American Telephone and Telegraph stock, involving an investment of $79,000,000.

At the end of the first 3½ years that the securities company had been in operation, it had cooperated with six of the associated companies in the distribution of their preferred stock issues. It first cooperated with the Southwestern Bell Telephone Company in the sale of $2,500,000 (later increased to $12,165,600) of 7% cumulative preferred stock of that company.

The territories embracing Houston, Galveston, and Beaumont were selected for first operations. Contracts were established for the local banks and investment houses, meetings of the employees held, circulars distributed, and advertising matter inserted in the leading papers. After this division had been established, Kansas was organized as a second territory, and later the other divisions in Texas. The result of this campaign was that the bankers sold stock to 1,762 people, while the employees of the Bell System sold stock to 20,518 people.

After the sale of the Southwestern stock, the securities company assisted the Wisconsin Company in selling an issue of $5,000,000 with practically the same results. This was followed by a campaign for the Chesapeake and Potomac Telephone Company, of Baltimore City. In this campaign 30,000 shares were offered, and employees took applications for 83,485 shares; the switchboard operators in Maryland turned in subscriptions for more than the total issue. The total number of shares offered by these three companies was 201,656 and the number of purchases 47,786—an average of about 4.5 shares each.

After the issue by the Chesapeake and Potomac Telephone Company, larger offerings were made in New York and Pennsylvania. In these two cases 450,000 shares were offered and sold exclusively through the employees. Applications were received from nearly 200,000 people of small means for about 1,400,000 shares of a par value of $140,000,000. In the Pennsylvania issue over 50,000 persons in the state of Pennsylvania purchased one share each.

On March 9, 1925, Mr. F. L. Devereux, the vice-president of the Bell Telephone Securities Company, stated:

> The list of owners of the Bell System presents a cross section of the American people. It includes laborers of every sort, farmers, housewives, stenographers, clerks, teachers, students, physicians, and others, as well as bankers and capitalists. Of the American Company stockholders, 329,733 own less than 100 shares, 277,479 own 25 shares or less, while 122,769 own 5 shares or less. The average number of shares held is 26. Among the preferred stockholders of 3 of the Associated Companies, there are 1,249 bankers, 10,700 clerks, 21,600 housewives, 24,317 laborers, 2,700 physicians, 3,000 teachers, and 4,100 stenographers.
>
> We believe that it is generally recognized that the stock of the American Company is regarded as a security of high investment standing. Its management is considered to be farsighted and conservative, and yet progressive, and, while the assets of the system are over $2,270,000,000, the capital stock is only $1,093,000,000 and the bonds $752,000,000. As a matter of fact, the price fluctuations of American Telephone and Telegraph stock compare favorably with the fluctuations of high-grade bonds. The transactions in this stock on the New York Stock Exchange represent the bona fide transactions of investors. While 8,884,781 shares of the American Company's stock were outstanding on December 31, 1924, the transactions on the New York Stock Exchange amounted to only 758,464 shares during the year. This is less than 8.5% of the stock outstanding at the end of the year. The United States Steel

Corporation had 5,083,025 shares outstanding at the end of 1924. The transactions during the year were 9,706,700 shares, or 190% of the shares outstanding. Similarly, the New York Central Railroad had 3,050,188 shares outstanding, with transactions of 2,214,725 shares, or 72%.

Obviously, no company which is not confident as to the soundness, stability, and progress of its business and the safety of its securities can afford to invite ownership, particularly of the man of small means and of limited knowledge. It cannot afford to assume such a responsibility. It is because of the stability and the continuous development of the telephone business and the record of the American Company that it feels justified in calling its securities to the attention of investors of all sorts.

We believe that in this work we are doing more than to strengthen the financial foundation of the Bell System and to make it possible to secure funds to meet the growing demand of the American nation for telephone service.

The telephone employee who assists his friend in acquiring the stock is not only helping to strengthen the credit of the company, but he is aiding his friend to become an investor in a security which is one of the soundest in the market. He is promoting thrift and the habit of safe investment. He is making friends for himself and for his company, and, in reality, is helping to make this country of ours a better one.

1. Is widespread ownership of the stocks of American corporations desirable?

2. Could an industrial (manufacturing) corporation be financed according to the plan described in this case? A railroad?

3. What characteristics of the telephone industry make the method of financing described in the case peculiarly successful?

V

ASPECTS OF DEMAND

Black, 906-910; Bye, 282-305; 454-481; Clay, 266-278; Edie, 79-111; Ely, 126-154; Fairchild, I, 217-240, 296-313; Gide, 35-61, 693-695; Marshall, 83-137; Rufener, 1-28; Seager, 70-108; Seligman, 173-188, 241-244; Taussig, I, 109-133; Turner, 98-122, 144-171.

1. Hanlin Department Store

REDUCED PRICE FOR PURCHASE OF TWO SIMILAR ARTICLES

In order to dispose of stocks on hand before ordering new merchandise for the next season, the general manager of the Hanlin Department Store was making plans to hold a 1-cent sale similar to the 1-cent sales held at frequent intervals by chain drug stores. The usual plan of a 1-cent sale was to sell two exactly similar units of any articles included in the sale, for the established price of one article plus 1 cent. Although he believed that the 1-cent sale should include as many departments as possible, the general manager realized that the departments handling only high-priced merchandise might have difficulty in finding articles which could be sold under the 1-cent plan. He thought that departments such as those selling small wares, ribbons, jewelry, hosiery, and house furnishings, since they carried at least a few low-priced articles, could advantageously include items in the sale. He was uncertain, however, as to whether many of the store's departments could take advantage of the sale. The 34 departments of the store were the following:

1. Women's coats.
2. Silks.
3. Men's hosiery and underwear.
4. Women's gloves.
5. Small wares and hair goods.
6. Underwear (knitted, muslin, and silk).
7. Laces and ribbons.
8. Bedding and upholstery.
9. Millinery.
10. Corsets.
11. Furs.
12. Trunks and bags.
13. Jewelry.
14. Women's and children's shoes.
15. Men's shoes.
16. Men's and boys' clothing.
17. Boys' shoes.
18. Men's furnishings.
19. Rugs, carpets, matting, and linoleum.
20. Dress goods.

21. Women's hosiery.
22. Wool goods.
23. Infants' and children's wares.
24. Toilet articles.
25. Sweaters.
26. House furnishings.
27. House dresses, negligees, bath robes, and kimonos.
28. Silk and cotton goods.
29. Women's suits.
30. Women's dresses.
31. Misses' dresses.
32. Misses' suits.
33. Petticoats.
34. Patterns.

When the plan was proposed to the buyer[1] for the women's coat and suit departments, he did not favor the idea of including his department in the 1-cent sale.

Although in the 1-cent sales which had been held by chain drug stores, exactly similar articles always were used to make up a pair, the general manager doubted the desirability of having the two units making up the pairs of items sold in this sale of exactly the same kind in every instance. He proposed to leave to the individual buyers the question of what articles should constitute pairs.

The buyers of the ready-to-wear clothing departments admitted that if the two units making up a pair did not have to be identical, it would be possible for those departments to include merchandise in the sale, but that they did not believe such a plan would be effective in inducing customers to purchase. The buyers argued that a customer would seldom buy two suits, dresses, or coats of the same quality at the same time even if there was some difference in the color and style. They contended even more strongly that it would be practically impossible to sell two suits or dresses of exactly the same style, color, and size to any one customer. On the other hand, if customers were allowed to purchase as a pair any two sizes in the same color and style, then two people would come to the department together, select a dress apiece in the same color and style but of different sizes, and thus secure this merchandise under the 1-cent price.

It was suggested that instead of offering two articles for what amounted to the usual price of one article, the store should reduce all prices one-half. This would make the price per article to the consumer practically the same as under the 1-cent plan, but perhaps would be a more effective inducement to customers, since it would give purchasers greater freedom in deciding how to spend their money.

What should have been the general manager's decision?

[1] A "buyer" in a department store is practically a department manager.

2. Benton Cab Company

ANALYSIS OF DEMAND

In November, 1921, a group of men decided to enter the taxicab business in a large city which, they were convinced, offered a fertile field for development by a company which could provide good service. A corporation known as the Benton Cab Company was formed. The capital was subscribed by the incorporators. The company desired to secure public interest and support from the outset, and the officers had to develop a policy to attain that end. Arrangements were concluded with a cab manufacturer to supply 75 cars of the model and design used by many companies in other cities.

The determination of the schedule of fares was the first problem. From an investigation which previously had been made in the city, the executives of the new company concluded that the companies then in operation were in a virtual combination to maintain rates at a high level; that their cars were for the most part nondescript; that many of their drivers were rough and discourteous; and that the service rendered was often undependable. Profits, moreover, did not appear to be commensurate with the high rates. These shortcomings and the success in other cities of companies which operated cabs of uniform model economically and profitably on a low schedule of rates, pointed the way to the new company.

The management was confident that the setting of rates at a level materially below those of other companies in the city would serve a double purpose. It would enable the company to secure a large share of the existing taxicab patronage and, in addition, to build up an extensive new patronage through the appeal of low rates to classes of people who previously had not used taxicabs because of the high fares. The company believed that the demand for taxicab service was elastic and, therefore, could be stimulated through a reduction in rates.

Such a reduction, however, could not wisely be made below the point which assured a reasonable margin of profit. It was necessary, therefore, to estimate accurately the probable costs of operation. For this purpose the cost figures furnished by the cab manufacturers were used as a basis. Those costs were in-

curred for cabs of the same type as those which the Benton Cab Company was to operate.

The prevailing rates of the old companies were 60 cents for the first mile, 40 cents for each additional mile for one person, and 20 cents for each extra passenger, with an added charge of 30% for return mileage.

The Benton Cab Company planned to secure drivers distinctly above the average of their group. Each applicant was required to fill out an information blank which gave complete details as to his education, habits, and previous employment. Before the manager engaged an applicant, he satisfied himself fully of the man's character and ability through personal interview and through a careful investigation of the references. The new employee was on probation for two weeks, during which his personal conduct and his capacity as a driver were watched closely. This was expected to be a cumulative advantage, since patrons were likely to use the taxicabs of this company exclusively if they were operated by careful, courteous, and honest drivers.

The company decided that its rates should be: 50 cents for the first mile, 30 cents for each additional mile for one person, and 10 cents for each additional person, with no charge for the return mileage of the vacant cab.

The company sought to attract the public through this price inducement and through the fact that its cars were new, clean, and in good running order, and that prompt and efficient service was guaranteed. All these appeals were stressed in the preliminary newspaper advertising. In order to establish the name of the company firmly in the minds of the public, a distinctive design in contrasting colors was painted on the sides of each cab and prominently connected with the name. In this way each cab was made a moving advertisement of the company, and the attractiveness of the design and the well-kept appearance of the cars were effective in drawing favorable attention.

The success of these appeals was attested by the record of the company during the first year and a half of operation. It gained goodwill and patronage rapidly. Other companies, in an attempt to meet the competition, placed better cars in service, adopted distinctive color combinations, and reduced rates. That the Benton Cab Company, however, retained its initial advantage, was shown by its growing popularity. So great was the growth of

demand for taxicab service that in the winter of 1922 and 1923 the company was able to give service to only one out of ten calls received. This condition led in the spring of 1923 to a policy of expansion. On the basis of funds received from the sale of new common stock, 175 new cabs were ordered, to be delivered in small lots at frequent intervals. It appeared certain that all the new cabs could be kept in operation to their full capacity.

1. Would you agree that the demand for the company's service was elastic?

2. Would your answer to (1) be different, if the company had merely adopted the lower fares without improving its service?

3. Should a company consider other factors than price in deciding how to attract patronage?

4. In the spring of 1923, should the company have raised its fares instead of purchasing additional taxicabs?

3. Chocolate Candy Company

LOCAL DECREASE IN PURCHASING POWER

One district of the Chocolate Candy Company included four large textile mill towns. In 1923, sales in this district amounted to $100,000 but in 1924 were only $60,000. Sales in the company's other territories, where the textile industry was not predominant, had remained constant.

In January, 1925, the company contemplated the use of newspaper advertising and an extra salesman to increase its sales in the textile district. In this district a depression in the textile industry during 1924 had caused considerable unemployment and part-time work schedules.

The company manufactured dipped chocolates which it sold both in bulk and in boxes. The prices of its boxed chocolates varied from 85 cents to $1.75 a pound, according to the quality of the candy and the type of box used. The company's salesmen sold its products directly to retail drug stores and confectionery stores. The size of the customary order was from $40 to $125. Retailers usually sold the company's candy for 50% more than it cost them.

Every two weeks the company inserted a one-column advertise-

ment in the *Saturday Evening Post*. It had used newspaper advertising at intervals in the past to stimulate sales in local territories, but without noticeable results. Both types of advertising indicated that the company's chocolates were esteemed chiefly as luxuries. No mention was made of their use as food.

Another method of sales promotion which the company considered adopting in the New England textile mill towns was the use of a salesman who was an expert in arranging window displays and in showing retailers how to display merchandise effectively. It had been his custom to travel through the company's territories and induce retailers to permit him to display the company's merchandise at the individual retailer's candy counters for a period of time varying from a week to a month. This salesman arranged attractive window displays by using dummy candy boxes and crepe paper, with an occasional box filled with candy opened to display the chocolates. Inside the store, filled boxes of candy were displayed on top of the candy counter with open boxes here and there to arouse the desire to purchase. This salesman's activities had been unusually successful.

The Chocolate Candy Company, however, hesitated to use either a special newspaper campaign or the extra salesman in the mill district. Unemployment or only part-time employment of a substantial number of the inhabitants of those towns was resulting in a severe decrease of purchasing power.

1. Could the local decline in sales of candy have been avoided?
2. Would the business of a bakery company have been affected in the same way as was that of the Chocolate Candy Company?
3. Is the demand for candy elastic or inelastic? Would the degree of elasticity be different in a period of depression from that in a period of business activity and prosperity?

4. California Fruit Growers' Exchange

ADJUSTMENT OF SUPPLY AND INCREASING DEMAND

The California Fruit Growers' Exchange, a cooperative marketing association, was organized in 1905 as successor to the Southern California Fruit Exchange,[1] which had been organized

[1] Rahno Mabel MacCurdy, *History of the California Fruit Growers' Exchange*, 1925, pp. 51-52.

in 1893 as a federation of smaller associations. The development of these marketing organizations received strong impetus from the conditions in the industry and in the citrus fruit market, which had brought prices for the fruit to ruinously low figures. In order to stimulate sales, the association decided in 1907 to enter upon an advertising program.

The members of the local associations affiliated with the California Fruit Growers' Exchange were fruit growers. Each local association assembled the fruit in its packing house, and graded, packed, and prepared the fruit for shipment. Several associations picked the fruit for their members. It was a common practice for each local association to pool the shipments of its members, sell the fruit without maintaining the identity of the shipments of each individual grower, and divide the proceeds from the sale pro rata. Such pools usually were on a monthly basis.

The local associations were grouped into 22 district exchanges which acted as clearing houses and which were operated on a nonprofit plan. These district exchanges kept records of shipments and destinations and obtained reports concerning market conditions from the central exchange. Through the central exchange, instructions were issued regarding prices and destinations and for the diversion of cars and trains in transit in order that the fruit might be sent to the most favorable markets. Although only a small percentage of the total shipments actually were diverted in transit, those diversions preserved the balance of the market.

The chief markets for California citrus fruits were in the cities in the middle-western and eastern United States. The fruit was shipped in trainloads on regular schedules. Shipments were made daily throughout the year. Refrigerator cars were used, and precooling stations had been established in order to facilitate the proper regulation of temperature for shipments. The central exchange acted as a clearing house for the district exchanges. It had representatives in all the important markets in the country from whom advice constantly was received regarding market conditions and prices. The fruit was sold for cash, and payment was made through the central exchange. The exchange also collected claims for damage and loss in transit. The proportion of fruit shipped through this exchange increased steadily.

There were several significant reasons for the development of this cooperative organization. In the first place, at the time the movement gained headway most rapidly, there was dissatisfaction among the growers over their relations with buyers, commission merchants, and others to whom their fruit was sold. Their product was increasing in quantity, and prices were falling. Gluts frequently occurred in the markets to which the fruit was sent. The blame for low prices and losses commonly was placed upon the middlemen. The growers found that they could obtain lower freight rates, faster time in transit, and less damage to their fruit if they were in a position to contract with the railroad companies for the regular shipment of trainloads. The growers also had been gaining experience in united action through their irrigation projects and through the need for cooperation in the protection of their orchards. The citrus fruit growing industry in California was specialized and required large capital.

EXHIBIT 1

ANNUAL SALES OF ORANGES, GRAPEFRUIT, AND LEMONS BY CALIFORNIA FRUIT GROWERS' EXCHANGE AND ITS PREDECESSOR*

(Value f. o. b. cars in California)

Season Ending†	Sales Value	Cars	Season Ending†	Sales Value	Cars
1896	$ 1,032,212	2,487	1911	$20,708,355	28,123
1897	858,029	1,789	1912	17,235,822	23,648
1898	1,671,230	4,025	1913	13,640,091	12,432
1899	1,713,514	3,000	1914	18,990,725	28,186
1900	3,643,791	6,039	1915	19,523,397	29,812
1901	4,799,000	11,027	1916	27,675,922	29,828
1902	4,385,472	7,309	1917	33,478,130	36,219
1903	4,497,919	9,621	1918	36,291,675	19,214
1904	5,062,594	13,072	1919	54,627,556	33,165
1905	7,124,377	14,219	1920	58,967,388	34,461
1906	9,936,497	12,884	1921	56,905,876	40,959
1907	12,268,752	16,217	1922	48,445,644	27,138
1908	11,753,544	17,636	1923	55,271,975	45,258
1909	13,958,990	22,954	1924	50,508,184	44,266
1910	14,831,975	19,639	1925	70,236,507	37,258

* Rahno Mabel MacCurdy, *History of the California Fruit Growers' Exchange*, 1925, p. 70, supplemented by data for 1925 from the *Annual Report of the General Manager of the California Fruit Growers' Exchange* for that year.

† Exchange fiscal years ended August 31 to season 1920-1921 and October 31 thereafter.

After entering upon its advertising program, the California Fruit Growers' Exchange developed the Sunkist brand of citrus fruits. Only such fruit as was of first quality was permitted to bear this brand. Shipments that were not up to the standard were sold under other brands or unbranded. This brand was one of the chief means that the exchange used for developing the demand for the products of its members.

The increase in the volume of sales of oranges, grapefruit, and lemons by the Southern California Fruit Exchange and its successor, the California Fruit Growers' Exchange, in the period from 1896 to 1925, is indicated by the statistics in Exhibit 1. This record covers 11 years preceding and 19 years following the inauguration of the advertising plan.

In the annual reports of the general manager of the exchange, data have been published on the selling and advertising expense. Systematic advertising by the exchange was commenced in 1907, with an appropriation of $10,000 by the board of directors. In the following year the appropriation was increased to $25,000.[1] In 1925 the total advertising expenditures of the exchange amounted to approximately $830,000, at the rate of 4½ cents per box of oranges and grapefruit and 7 cents per box of lemons.[2]

The following statements were made in the annual report of

[1] Rahno Mabel MacCurdy, *op. cit.*, pp. 59-64.

[2] One view of the effect of advertising on fruit prices and the costs of production was expressed in the following letter, published in *Printers' Ink*, August 17, 1922, written in response to a contributor's question as to why the prices of nationally advertised fruits were so high.

The Durant Corporation

Yakima, Washington, August 7, 1922.

Editor of *Printers' Ink:*

In the issue of *Printers' Ink* as of July 27, 1922, F. M. Berkley asks a question regarding the price of variously advertised brands of apples and oranges which I will try to answer.

For the past 12 years I have been closely related to the growing and marketing of Northwestern apples. While I am not familiar with oranges in the same light that I am with apples, the conditions surrounding the production of this commodity are, I believe, somewhat similar to the production of apples.

The cooperative growers of California have, by consistent national advertising, created a demand which has likewise increased the sale of their products, thereby creating a market for the large increased production.

Profiting from the experience of the California growers, the Northwestern growers have, within the past few years, appropriated large sums to the advertising of the Northwest boxed apple, the "Big Y" and Skookum brands being living testimonials of these past efforts.

The money for these various appropriations has been assessed directly against the grower at so much per box, in some cases as high as 5 cents a box. The cost of raising, warehousing, and loading a box of apples to the grower is in the neighborhood of $1.15, which cost is based on quantity production and cannot be reduced through increased sales. Commission houses charge from 10 to 15 cents selling charge, plus in some cases 2 or 3 cents brokerage.

Now add 5 cents for advertising appropriation and even though the advertising does increase the sales, which it is expected to do, it *has not cut the cost of production,* and has added 5 cents to the selling cost. So Mr. Berkley will readily see that the advertising of apples or oranges cannot reduce the retail

the general manager of the California Fruit Growers' Exchange for the year ending October 31, 1922:

. . . . . .

Exclusive of advertising, the entire service of the central exchange cost an average of 7.7 cents per box for the year ended October 31, 1922. Immediately following the freeze, the force and expenses were reduced to the minimum compatible with conserving the efficiency of the organization for the sale of the fruit to be shipped, but with the smaller volume the per box cost is higher than in other recent years.

The average cost of the service rendered by the district exchanges during the same period was 1.8 cents per box, making the total average operating cost 9.5 cents per box, or 1.69% of the delivered value of the fruit and 2.27% of the f.o.b. returns.

. . . . . .

The estimate of January 1 indicated a crop for the season of nearly 15,000 cars—an increase of 3,000 cars over the previous year and 6,000 cars over 1920. The estimated California crop was in excess of the combined supply of California and imported lemons in any previous year. The total supply of lemons in the United States in 1920-1921 was 13,903 cars, and the year before 13,251 cars. Two years ago, the California crop as a whole sold at a loss, and it was only the unusually hot summer in 1921 that allowed the average price for that season to be above the cost of production.

Because the principal lemon acreage[1] is in the districts where the temperatures were not so severe and a larger proportion of it was protected by orchard-heating devices, the lemon crop suffered less than the orange crop by the freeze in January. The fruit picked after the

price, but is resorted to to create a demand for the ever-increased production of these commodities.

We also have some keen competition in the eastern barrelled apple, which we are trying to overcome by educational advertising of boxed apples, which tells the consumer that every apple is hand-picked and packed. Each apple is wrapped in tissue paper to insure good keeping qualities and sanitation to the consumer; also every apple is graded and inspected, and nothing but the fruit of the very highest grade is allowed to pass our rigid inspection rules.

No, Mr. Berkley, the advertising of apples will never reduce selling cost to the grower, but on the other hand, adds to it.

H. L. Craver.

[1] The present lemon-bearing area in California comprises 33,000 acres, which are now producing more than the normal consumption of the United States and Canada. The 17,000 acres of nonbearing trees, if properly cared for, will create a supply greatly in excess of present demands. The exchange growers, having this condition in mind, have for a number of years used educational advertising intensively to inform the public of the many valuable and delicious uses for lemons; they are working with the trade toward better displays, lower margins and more rapid turnover, and are studying in detail market possibilities, developing new markets where practicable, and are endeavoring to put lemons in all the markets in the best condition possible. During the past season several new markets have been opened, largely in territories previously supplied with foreign lemons. *Annual Report of the General Manager of the California Fruit Growers' Exchange,* October 31, 1921, p. 13.

freeze amounted to 64% of the quantity originally estimated to be picked from that date.

The prices of lemons, when compared with other years, were not materially affected by the freeze because, due to the increased crop, the shipments from California were greater after that time than in any other year, excepting 1919 and 1921, and the importations of Italian lemons were increased. However, it is questionable whether the entire crop, with the addition of normal imports, could have been marketed to advantage, considering the high cost of its production.

. . . . . .

The demand for lemons is increasing, due to the continuous publicity calling the attention of the public to the many ways in which they may be used to advantage in the household; due to the development of the lemonade demand, and to a better and more regular distribution. The markets absorbed a heavier supply during the winter and spring months than ever before at good prices, and the average for the season has been satisfactory, with practically a maximum supply compared with other years and with no unusually favorable weather conditions in the consuming sections.

It is true, however, that except for the frost damage California would have produced this year considerably more lemons than the United States and Canada have ever consumed, and the most intensive work to further develop the markets and increase the per capita consumption is necessary to successfully market prospective future crops. Lemon trees are more susceptible to damage than orange trees, due to their more vigorous growth in the winter months, and next season's production will be more seriously affected by the freeze of last January than in the case of oranges. Nevertheless, the prospects are for a greater quantity than was shipped this year, and the rapid recovery of the groves indicates a production in 1924 of as large a crop as California has ever shipped and an increasing one thereafter.

The first purpose of Sunkist advertising is to increase the total use of oranges and lemons, and the second to create and increase the consumer and trade preference for California citrus fruits, particularly the Sunkist brand. The third objective is to extend markets and promote reasonable margins, good displays, and sound merchandising methods with the trade.

In revising the season's advertising plan on a short crop basis to keep the expenditure within the appropriation of 3½ cents per box on oranges and 6 cents on lemons, the educational features of Sunkist advertising were kept predominant. Emphasis was placed on the health value of citrus fruits, the place of these wholesome fruits in the well-balanced diet, and especially the necessity of orange juice for infant feeding.

. . . . . .

California citrus fruit growers must be mindful of the constantly increasing competition from other fruits, the acreage of which is being rapidly extended, of the advertising of these fruits and of other food

products, and continue their advertising on a scale which will keep oranges and lemons in the enviable position which they now occupy with the public, and extend their use.[1]

The following statements are excerpts from the annual report of the general manager of the exchange for 1925:

In addition 4½ cents per box of oranges and 7 cents per box of lemons was expended in national advertising and dealer service work, making an average cost for both marketing and advertising of 2.4% of the delivered value of the fruit.

. . . . . .

Advertising is a form of education and, like education, the work is never finished. The American market of 120 million people is a changing one, changing as to individuals and as to habits and customs of the people. It requires sustained effort, as well as alertness to opportunity, to maintain and increase public preference for a food product. The exchange has recognized both necessities.

Millions of favorable and convincing impressions have been delivered to the American public through the exchange advertising campaign of 1925. Recipes and use suggestions which delineate attractive ways of using oranges and lemons have been presented to the public, reinforced by sound information on the health value of citrus fruits. Scientific evidence is accumulating on every hand to further establish citrus fruits as outstanding in health attributes among fruits. The medical profession, research workers, and the forces of public education are unanimous in urging a liberal consumption of fruit as a measure of general healthfulness. This situation affords the citrus industry an exceptional opportunity to tie its own advertising efforts closely to this public program. This has been done by the exchange, which has also been instrumental in initiating several specialized investigations by competent authorities to establish additional health evidence.

Commercial orangeade and lemonade are now substantial factors in citrus fruit demand and furnish the most promising sources of additional demand. The exchange is largely responsible for developing this new market, and its growth is a matter of only four years. Citrus fruit consumption at soda fountains was relatively insignificant until the Sunkist electric juice extractor was perfected in 1922. Approximately 7,000 of these machines were sold this season, bringing the total now in use to 27,000. At the rate of a box of citrus fruit a week, which is conservative as a year-round average per machine, these Sunkist extractors are directly responsible for a fruit consumption of 1,350,000 boxes this season. This represents new business of approximately 3,400 carloads. Every eight Sunkist extractors which can be placed in service create a new market for an extra carload of oranges and lemons.

The exploitation of fresh fruit orangeade and lemonade is important,

[1] *Annual Report of the General Manager of the California Fruit Growers' Exchange,* October 31, 1922, pp. 7, 8, 12, 14, and 15.

not alone because of the amount of citrus fruit directly consumed in this way. Even more significant are the sampling and reminder through displays in prominent locations which serve to keep oranges and lemons constantly and conspicuously before the people.[1]

By the use of the advertising and other active sales promotion methods, the market for citrus fruits was greatly expanded without continuous reductions in price. Thus not only the growers but the various distributors were assured of adequate demand at prices sufficiently high to yield fair profits.

1. Is the demand for oranges and lemons elastic or inelastic?
2. What factors other than advertising have led to the increased consumption of these fruits?
3. In what particulars do seasonal influences affect the demand for these fruits? The supply of them?
4. Do the arguments here presented in favor of advertising apply to the advertising of wheat?
5. Who bears the cost of the advertising—producer or consumer?

5. Samoset Company

Partial standardization to modify seasonal demand

In order to stabilize its business and place it on a footing less susceptible to the effects of seasonal style changes in women's garments, the Samoset Company, although conforming to style tendencies as regards length, fullness of skirts, and other general features, had developed semistandard styles in women's coats and suits. These garments were distinctly conservative and did not follow any fads or short-lived styles.

Irregularity of production had become one of the serious difficulties faced by most manufacturers of women's garments. Women purchased clothing almost exclusively during the spring and fall seasons. Retailers' sales and stocks were greatest at those times. In recent years prior to 1922, retailers had tended to postpone as long as possible the date of purchase of women's garments, in order to be sure of obtaining the latest styles. Styles in women's clothing changed from season to season, and frequently even within one season.

In view of these changes in style, manufacturers of women's

[1] *Ibid.*, October 31, 1925, pp. 5, 7, 8, 14, 15 and 16.

clothing were reluctant to produce stocks ahead of the retailers' buying periods, lest a sudden variation in styles should render the accumulated inventories unsalable at profitable prices. Waiting for receipt of retailers' orders before commencing large manufacturing operations, however, was also disadvantageous. Not infrequently, such a policy resulted in factories being idle for as much as four months in each year. During periods of idleness, almost all the employees had to be released. In the other months, however, overtime work was often required, for which, at such times, extra wages had to be paid. Factory discipline was difficult to enforce because of the large numbers of new employees hired each season. The employees resented the periods of inactivity, and attempted to secure high enough wages during the active periods to make up for the idleness of other months. Many of the products were defective and had to be remade, discarded, or sold at a sacrifice. Even after waiting as long as possible to learn what styles were to be popular, manufacturers often misjudged the demand, and consequently made some garments which could not be sold readily or profitably.

The policy of making semistandardized garments, rather than garments designed to reflect the styles of each season, had seemed to the Samoset Company to be desirable from the manufacturing viewpoint.

In adopting that policy, the company acted on the assumption that in addition to the desire for the latest styles, there was a demand among women for conservatively modeled garments, tailored in good taste, that could be worn more than one season. In addition to permitting production to be spread over a longer period of the year, the Samoset Company's policy facilitated the trade-marking and national advertising of its product, which was sold in department stores and women's ready-to-wear stores in many localities in the United States. Through large expenditures for advertising in newspapers and in periodicals, the Samoset Company made both its policy and its product well known.[1]

[1] The H. Black Company, of Cleveland, had a style policy similar to that pursued by the Samoset Company. A typical advertisement of the H. Black Company, which appeared in a Chicago newspaper, read as follows:

WHOSE FAULT IS IT—
IF YOUR COAT OR SUIT IS OUT OF STYLE
NEXT SEASON?

Is there any reason why a coat or suit purchased this season should be out of fashion next year?

(*Footnote continued on page 83*)

Ordinarily, manufacturers and wholesalers, seeking the densest distribution possible, sold women's ready-to-wear garments, as well as piece goods, to department stores, metropolitan specialty stores, and other retail outlets for ready-to-wear goods and dry goods without restrictions. The Samoset Company, however, granted an exclusive agency for its garments to one department store or other ready-to-wear retailer in each locality. The contract provided that the retailer was to have the privilege of selling at retail in his store all products of the Samoset Company, and that this privilege was not to be granted to any other retailer within a specifically defined territory. He was given the privilege of designating his store as "The Samoset Store" and agreed to put forth his best efforts to maintain and increase the sale of Samoset products, to keep a sufficient supply of Samoset goods on hand at all times to meet the demand, and to give these goods preference in purchase, display, advertising, and sale.

1. Was widespread adoption of the Samoset Company's style policy desirable?

2. Should the company have attempted further to regularize production throughout the year by offering unusually low prices during the winter and summer seasons?

6. Ford Motor Company

CHANGING DEMAND

On May 26, 1927, the newspapers contained a statement by

(*Footnote continued from page 82*)

Certainly not, if you select a style which is assured of lasting, rather than something extreme and one-season.

"But why," you ask, "should stores carry one-season styles which I must discard next year?"

The answer is a simple one. The merchant buys what he feels he will sell. If he is progressive, he would prefer not to carry the extreme of bizarre—then he does not have to "sacrifice" those he does not sell in order to close them out while the vogue is in.

But, many women still insist upon regarding seriously every fashion note that "they are wearing this" or suits must be "thus and so." This type of woman demands "novelties" and it is for her that the store handles them.

You are safeguarded in *your* choice, though, by knowing who makes the coat or suit you purchase.

No Wooltex Tailor-made or Wooltex Knockabout is ever designed on transient, faddish lines. The styles are as lasting as the fabrics themselves. Fine serges, tricotines, tweeds, homespuns, and Wooltex Sportspuns plus exquisite tailoring go into each of these coats and suits.

The label—the sign guaranty of the Wooltex Tailors—is inside each collar.

Mr. Henry Ford relative to the change in model by the Ford Motor Company. The same issue of the *Wall Street Journal* contained the announcement that the 15,000,000th Ford "Model T" would be assembled that afternoon with elaborate ceremony, participated in by Mr. Ford and his son, Mr. Edsel Ford.

Mr. Henry Ford's statement as given in that *Journal* follows:

The Model T Ford car was a pioneer. There was no conscious public need of motor cars when we first made it. There were few good roads. This car blazed the way for the motor industry and started the movement for good roads everywhere. It is still the pioneer car in many parts of the world which are just beginning to be motorized. But conditions in this country have so greatly changed that further refinement in motor-car construction is now desirable and our new model is a recognition of this.

Besides the Model T itself, another revolutionary element which the Ford Motor Company introduced 20 years ago was the idea of service. Some of the early manufacturers proceeded on the theory that once they had induced a man to buy a car they had him at their mercy; they charged him the highest possible price for necessary replacements. Our company adopted the opposite theory. We believed that when a man bought one of our cars we should keep it running for him as long as we could and at the lowest upkeep cost. That was the origin of Ford service.

The Model T was one of the largest factors in creating the conditions which now make the new model Ford possible. The world-wide influence of the Ford car in the building of good roads and in teaching the people the use and value of mechanical power is conceded. Nowadays everybody runs some kind of motor power, but 20 years ago only the adventurous few could be induced to try an automobile. It had a harder time winning public confidence than the airplane has now. The Model T was a great educator in this respect. It had stamina and power. It was the car that ran before there were good roads to run on. It broke down the barriers of distance in rural sections, brought people of these sections closer together, and placed education within the reach of everyone. We are still proud of the Model T Ford car. If we were not, we could not have continued to manufacture it so long.

With the new Ford we propose to continue in the light car field which we created on the same basis of quantity production we have always worked, giving high quality, low price, and constant service. We began work on this new model several years ago. In fact, the idea of a new car has been in my mind much longer than that. But the sale of the Model T continued at such a pace that there never seemed to be an opportunity to get the new car started. Even now the business is so brisk that we are up against the proposition of keeping the factory going on one model while we tool up for another. I am glad of this because it will not necessitate a total shut down. Only a comparatively

few men will be out at a time while their departments are being tooled up for the new product. At one time it looked as if 70,000 men might be laid off temporarily, but we have now scaled that down to less than 25,000 at a time. The layoff will be brief, because we need the men and we have no time to waste.

At present I can only say this about the new model—it has speed, style, flexibility, and control in traffic. There is nothing quite like it in quality and price. The new car will cost more to manufacture, but it will be more economical to operate.

The next day the *Wall Street Journal* contained the following comments:

For some time past a number of producers in this field, particularly General Motors Corporation, Hudson, Chrysler, Willys-Overland, and others, have been increasing their business as demand for the Ford Model T waned.

Last year, it is estimated, Ford sales declined approximately 300,000 cars, compared with the preceding year, while output of the industry as a whole showed a slight gain over the preceding year. An even greater shifting of business from Ford to other makers has been apparent during the first four months of this year. Ford's output, which at one time approximated 200,000 vehicles a month, has steadily declined as other manufacturers made inroads into his territory. At first Ford endeavored to meet this competition with price reductions, but this move proved only a temporary stimulus to sales. It has been obvious for some time that Ford's only possible countermove was to modernize the Model T car to meet the demand of the public for a stylish, up-to-date, economical automobile.[1] This is apparently what he now plans to do.

The extent of the decline in Ford's sales is indicated by estimates of April production which place his total at fewer than 75,000 vehicles, notwithstanding that the month usually represents the peak of motor manufacturing activity. It is understood that Ford plants will curtail sharply while preparations are being made for production of the new

[1] The output of Ford motor cars, monthly, 1923-1926, "fell off quite sharply in 1926," according to a table appearing in the *Wall Street Journal* earlier in the year.

	1923	1924	1925	1926
January	111,145	161,933	117,090	114,967
February	122,994	167,241	124,949	123,251
March	151,382	178,308	152,300	141,705
April	159,920	181,960	181,373	145,987
May	170,992	157,925	176,729	141,446
June	175,040	135,048	206,082	122,802
July	169,927	140,233	181,318	144,486
August	172,233	140,376	24,248	142,259
September	164,748	149,906	91,336	129,831
October	185,924	147,715	204,811	109,473
November	166,415	128,600	188,251	91,708
December	164,595	101,846	149,621	40,000

models which embody extensive changes in design and construction. While he has for some months been making no effort to push cars on dealers, so that his retail organization would have time to liquidate its stocks of unsold cars before the new cars were ready for market, further reduction of shipments will now become effective as dealers move the last of their old stocks.

Should the Ford Motor Company have undertaken this radical change in its operations?

VI

ASPECTS OF SUPPLY

Black, 24-62, 314-380; Bye, 71-102, 306-324; Clay, 242-265; Edie, 39-78; Ely, 154-174; Fairchild, I, 26-41, 139-163, 241-247, 314-344; Gide, 65-85, 106-108, 127-130, 695-700; Marshall, 138-143, 337-362, 403-412; Rufener, 29-34, 87-117, 138-155, 244-260; Seager, 109-152; Seligman, 189-203, 244-253, 262-269, 278-287; Taussig, I, 3-14, 67-79, 134-155, 167-194; Turner, 172-194, 331-351.

1. Richmond, New Hampshire[1]

Investment in lumber production

One hundred and seventy-six years ago the first white men settled in what eventually became the town of Richmond, New Hampshire. They found this section rich with extensive forests of stately trees, some of which are still standing. From a few families living in log cabins, the settlement grew to a town of 1,400 inhabitants, larger than was Keene at that time. Richmond boasted 14 water-power mills, and these turned out leather, lumber, shooks, chair stocks, scythe-snaths, clothes-pins, pails, mop handles, bobbins, barrels, hoes, spinning wheels, chairs, hats, lampblack, charcoal, curled hair, wool, homespun cloth, bricks, and other articles. All these industries and water-power mills were features of which the townspeople were justly proud. But these oldest inhabitants did not look into the future and reckon the cost which the town would eventually pay for this tremendous prosperity. They cleaned out the forests until only a small portion of the original trees were left. They went on blindly in their manufacturing until one day it dawned upon them that their millwheels must cease, and their day of prosperity was at an end, simply because their forests were gone and in their short-sighted planning they had not made provision for the years to come. When the year 1820 came along, it found the town with a dwindling population, mills deserted, and forests stripped pitilessly bare. This condition of affairs continued until Richmond was reduced to a population of 300.

From agricultural experts of the United States Government, Mr. Ralph L. Morgan, an engineering expert and inventor, learned that Richmond has the best forest-growing land in the eastern part of this country for growing pine fast. The climate also is admirably adapted

[1] Adapted, by permission, from article by Louise Davy, in *Boston Evening Transcript*, June 25, 1927.

to the raising of pine. It is not an ideal farming land, which accounts for the decline experienced when the forests were gone and its inhabitants were forced to turn to farming for a living. The farm average through the state of New Hampshire is only 17%. So, thought Mr. Morgan, the climate being the same as in its days of prosperity, the soil unchanged, and the pine tree itself certainly not having varied in its requirements, what was to hinder a return of that prosperity by the raising of pine trees? His ambition is to raise them in sufficient quantity to insure a tax-free town in 40 years, and this dream is not an idle one. The plan has been found practicable in Germany and Switzerland. In some instances, towns in these countries have gone one step farther and have been able to pay their townspeople dividends from the revenue derived from their forests.

In some sections of Richmond, hundreds of pine trees grow more than 3 feet in a single season. In 1926 a great many grew 42 inches, while others enlarged in diameter as much as 1¼ inches a year. Mr. Morgan has learned that a tree which was left to grow like Topsy produces boards worth $30, while if properly cared for it will bring $200 pattern stock.

Gradually the townspeople of Richmond are becoming interested in this plan and are taking advantage of Mr. Morgan's offer to furnish any landowner in the locality as many three-year-old transplants as he will plant upon his own land; the same offer is open to residents of Fitzwilliam who own land within the well-known Tully Valley. That he might be in a position to make this offer, Mr. Morgan in 1924 started a small nursery which has grown amazingly. In the spring of 1926 between 300,000 and 350,000 seedling trees were transplanted into the nursery. Long before the planting season of 1927, over 100,000 of these trees were spoken for. On his own land Mr. Morgan has set out over 110,000 trees. "Surely," was Mr. Morgan's opinion, "there is wealth ahead and secure investment in forest plantations, for the young forests of today mean the mature forests of tomorrow, when the nation will be sorely in need of stumpage. The stock of standing timber on this continent is running low. Only one-third of the original acreage of timber in the United States still remains. In 60 years the lumber industry has moved into and exhausted successively 4 of the 5 largest timber regions of the nation. Most of the virgin timber left standing is situated 2,000 miles west of the centers of population, and a 6 to 1 relationship exists between consumption and production of saw timber. Facts about timber exhaustion are startling when fully understood; they point squarely to a downward trend."

He went on, bringing out the point that only one generation ago the extreme eastern portion of the United States was the center of this nation's lumber industry. Gradually it moved to Pennsylvania, then to the lake states. Fifteen years later the center of lumber production in America was in Georgia and inside of another 15 years it had swept along the southern coast and gulf states to Louisiana and Texas. It is now in the Pacific Northwest, Washington leading among individual

states in lumber production. New England has fallen far behind. It has not taken the lifetime of any white-haired man living to bring about this deplorable condition of affairs. "No other form of investment is so certain of ultimate return and no other piece of individual effort is so absolutely essential to the welfare of the community," Mr. Morgan said.

At the last town meeting in Richmond the selectmen were given power to set aside a separate fund of $500 to finance the purchase of pine and other transplants and the labor involved in setting out trees on any cut-over or nonproductive land belonging to nonresidents, when so ordered by the owners, the money so spent to be collected by the selectmen from the landowner and deposited in the fund. By this method the town will be given work and also will lay the foundation for renewed prosperity. In this way all will profit. The state provides the stock at bare cost. Two men can plant an acre, 1,200 trees, in a day, at the rate of $4 a day. An acre of waste land set to pine will cost $8 plus the charge for the stock used. After 40 years, 10 acres worth $100, in which has been invested $180 in pine, would cruise 30,000 board feet to the acre, or 300,000 for the 10 acres. At present prices this would bring $10 per thousand board feet on the stump, or $3,000. The same investment if placed in a savings bank for the same length of time would grow into only $1,046.96.

Richmond is also an ideal place to grow Christmas trees, of which there are several millions used every year. These trees retail in the large cities at from $1 to $4 apiece. They can be set out about 5,000 to the acre. Figuring at a minimum, the profit on one tree would be 25 cents, or $1,250 an acre. This is better by far than the meager living wrested from the same soil by farming, and the trees can be planted in such a way as to make this income steady, year in and year out, from the succession of crops.

That pine trees planted by the roadside are conducive to good roads is proved by the fact that wherever there are pines there is shade, and underbrush cannot thrive without sun. So the town is saved the cost of cutting this out. Then, too, a road protected by pines is not as susceptible to freezing; it is apt to thaw out more evenly and slowly. The snow does not drift and in summer the road does not dry up so completely, thus preserving the surface. The year-round shade has a moderating effect upon sudden changes in temperature. Mr. Morgan is urging the people of Richmond to plant 74,000 pines along the 70 miles of its roads, and by so doing, prevent their being forced by law to build improved roads. The amount expended would in a few generations reduce taxes to a minimum, if not entirely abolish them, and would result in the finest roads possible without burdening the townspeople. Roads are an expense, but forests are living things and productive of wealth.

What factors were essential to the carrying out of this project?

2. Wolper Company

Adjustment of Costs to Selling Price

The Wolper Company manufactured rubber shoes, rubber boots, and tennis shoes. In the process of manufacture practically all shoes went through the same productive departments. After the component parts of the shoes had been cut from sheets of rubber and rubberized fabric, the parts for each model were assembled in a storeroom for the makers who constructed the shoes on the proper lasts. In order to make the rubber tough enough to withstand wear and hard usage, the finished shoes were heat-treated in large ovens, after they had been inspected. Before heating, most of the shoes were treated with an application of flour or varnish, to give them the proper finish. Varnish applied to the rubber before heating gave the shoes a glossy finish; flour dusted on them gave a dull finish. Shoes with cloth tops were not treated by either method. After being removed from the ovens, the shoes were again inspected and pairs were packed in individual cartons.

A cost accounting system had been developed, which had proved entirely satisfactory. The cost accountant had revised and adjusted the system continually, and the management felt that it was accurate. These costs, for each type of product, included payments for material and labor and an assigned share of the overhead expenses. Before new models were placed on the market, estimates of their probable costs were made, and these costs were important factors in determining the company's selling prices. On models which were similar to those of competitors, selling prices were adjusted to meet competition, regardless of the costs shown by the accounting system.

The Wolper Company developed a new type of shoe which it placed on the market and which was expected to become popular. On the basis of estimated costs prepared by the cost accountant, the selling price of that model was set at a point to yield the company its customary rate of profit. As the season advanced, it was found that the actual costs were higher than those estimated. It was necessary, also, to make reductions in the selling price to meet the prices of competitors who soon imitated the new model. As a result, the Wolper Company's profit was less than had been expected. In order to show a larger profit, the treasurer of the

company requested the cost accountant not to include, in the cost figures for the model, the expenses for dusting the shoes with flour. That item amounted to approximately 3 cents on each pair of shoes. The treasurer requested that the expense be omitted from the cost of the new model and be allocated to the other shoes passing through the dusting process. The increased cost spread over the remainder of the product would amount to less than 1/10 of 1 cent a pair. The treasurer contended that the selling price of the other shoes could more than cover that additional cost.

The cost accountant objected to that procedure. He believed that the costs of all the shoes going through the factory were being determined properly, and that each model should carry its own burden of costs. He felt that the cost system which had been developed was accurate, and pointed out that manipulations of costs between products would have no effect on the ultimate profit or loss of the company for the period as a whole.

1. How would the suggested change have affected the "real" costs of the particular model? The "expenses" of the particular model? The selling price?
2. Should the manufacture of this model have been discontinued?

3. Fox Mills

PRICING ARTICLES IN RELATION TO COSTS

In 1922 it was proposed that the Fox Mills, which manufactured underwear, should change its methods of pricing various sizes and finishes of its different types of underwear. The proposal was that each size and finish of a particular style of garment should bear a price exactly proportionate to its cost of production.

The company's products were classified into men's, women's, boys', misses', and children's garments; these classes were subdivided into union suits, shirts, and drawers. The products were further subdivided into 3 heights of neck, 4 lengths of sleeves, and 3 lengths of legs.

These garments were offered for sale in 55 fabrics, composed of combed or carded yarns, cotton, wool, silk, and mixtures, and knitted in several ways. Each style was manufactured in an

assortment of sizes. Children's sizes were 1, 2, 3, 4, 5, and 6; the prices for children's garments varied between sizes. Boys' and misses' sizes were 2, 4, 6, 8, 10, 12, 14, and 16; for these garments no price variations were made on a basis of size. Men's sizes ran on the even numbers from 34 to 50 and were divided into regulars and stouts, which were sold at the same prices. Women's sizes were divided into regulars and extras. The regular sizes, 4, 5, and 6, were sold at one price, and the extra sizes, 7, 8, and 9, were sold at a slightly higher price.

According to the company's current method of pricing, the selling prices varied between the different fabrics and between the major classes of products, but with the exceptions just stated, no differentiations in price were made between sizes of the same style or for different heights of neck or lengths of sleeves and legs. When the price for a style was to be determined, the sales of that style in dozens were estimated and the total direct manufacturing cost for that quantity was figured.

The company's accounting practice was to determine "manufacturing" costs by including prime costs—that is, costs of the materials used and the wages of workmen who either processed the garments or aided indirectly in the operations—and factory overhead, or supplementary costs. Prime costs varied directly with the quantities of garments made. Supplementary costs, including interest on investment, taxes, depreciation, heat, power, and wages of indirect laborers and of departmental foremen, were relatively fixed. Such costs changed only slowly and over considerable periods of time, regardless of short-time variations in prime cost. To compute total costs, supplementary costs were added to prime costs, as a uniform percentage of the prime costs.

The costs attributed to the different sizes and finishes of a particular style varied, consequently, because of differences in the quantities of material and labor required. To determine costs for a particular style and finish, the usual ratio of the sales of each size to the total sales of the group was determined from previous sales records. For example, sales of sizes of one style of garment usually were as follows:

Size of garment	4	5	6	7	8	9
Sales in dozens	1	3	5	4	4	4

By use of this ratio, the average weight per dozen garments sold

of that style was determined, and the costs of the lot were computed.

The company expected its selling prices to be high enough to pay for the above manufacturing costs, and also to cover several other items: general management expenses, such as salaries of officers, and all selling expenses. Finally, the prices were expected to yield also a net profit over and above all the expenses.

To accomplish this, it was customary for the company to add to its selling prices an average amount equal to 37% of the manufacturing cost. This mark-up, in relation to selling prices, was 27% of such prices.

Pricing of a given style, therefore, was done as follows: to the estimated manufacturing cost of the garments was added 37%, resulting in the total selling price of that style. This total in dollars was divided by the total number of dozens expected to be made and sold, to determine the average selling price per dozen in that group. An example of this method of figuring prices is shown below:

STYLE NUMBER 673 (LADIES')

Type of Neck Finish	Manufacturing Cost per Dozen	Estimated Sales in Dozens	Total Mill Cost	Selling Price to Retailers per Dozen
High.....	$6.82	1,000	$ 6,820	$7.80
Dutch.....	5.83	8,200	47,806	7.80
Band Top..	3.04	800	2,432	7.80
		10,000	$57,058	

The mark-up of 37% on the total manufacturing cost of $57,058 amounted to $21,111. The addition of that amount to the total manufacturing cost gave a figure for estimated sales of $78,169. The estimated sales in dozens being 10,000, the selling price was placed at $7.80 a dozen.

The treasurer of the Fox Mills believed that it was inadvisable for the company to sell any of its products at a loss and, furthermore, that it was only fair that customers should pay in direct proportion to costs. Hence, although sales at the existing prices were in general satisfactory, he proposed to base the price of each size and type of garment on its actual cost. The company had taken a step in this direction a few years previously when it had changed its method of pricing children's underwear. Con-

sumers had expressed the opinion that garments for a four-year-old child, for instance, should not bear the same prices as those for a ten-year-old child. The averaging method, therefore, by which all sizes of children's underwear of a particular style had been sold at the same price had been changed to one by which sizes bore different prices, in proportion to manufacturing costs. The variations in costs between the sizes in boys', misses', men's, and women's garments were by no means negligible, because different quantities of labor and of materials were needed for making different sizes.

So far as was known, no competitor had made the change in price policy proposed by the treasurer of the Fox Mills. There was the possibility, consequently, that the innovation would not be received favorably by the company's customers and that sales would be affected adversely.

It was suggested, on the other hand, that perhaps the proposed price policy would encourage the purchase of the cheaper types of garments. For example, the company made a light-weight summer garment with a high neck because of the demand of a few customers, and it was expected that a price differential in most cases would cause those customers to change to the more popular low-neck style. Eventually such a price policy should shift sales to the styles which could be manufactured most economically and, consequently, the Fox Mills would have a price advantage unless competitors made similar changes in their policies.

The change, as it would apply to the style already discussed on page 93, would result in the following selling prices:

STYLE NUMBER 673 (LADIES')

Type of Neck Finish	Manufacturing Cost per Dozen	Estimated Sales in Dozens	Total Manufacturing Cost	Selling Price to Retailers (37% above Mfg. Cost)	
				Per Dozen	Total
High	$6.82	1,000	$ 6,820	$9.34	$ 9,340
Dutch	5.83	8,200	47,806	7.99	65,518
Band Top	3.04	800	2,432	4.16	3,328
Totals		10,000	$57,058		$78,186

1. Would the proposed pricing method have yielded prices

more accurately proportioned to total costs of individual garments? To total costs of the entire output?

2. Was the treasurer's plan sound?

3. If the change in cost accounting had been made, what would have been the probable effects upon sales of the three different finishes of style Number 673?

4. Perham Company

EXPENSES UNDER VARYING RATES OF PRODUCTION

The Perham Company manufactured starting and lighting units on contract for automobile manufacturers. The units consisted of a motor and a generator, with the necessary indicators and switches, for cranking automobile engines and recharging storage batteries. The switches and indicators were purchased by the company; the actual motors and generators were manufactured in its plant. All manufacturing was on contract; contracts usually covered a year. There was an extreme seasonal fluctuation in the business of the company. During May of 1923, approximately 40,000 units were assembled and delivered to the various customers. In October of that year only 6,000 were produced. The company's production coincided with the season of the automobile manufacture, since designs and specifications changed so rapidly that it was impossible to manufacture in advance of requirements.

Although the cost prices of materials and parts used directly in making the company's products were practically uniform, regardless of the rate of factory output, in 1924, the auditor of the company became interested in the problem of the relation of burden, or supplementary, expenses to various rates of production. He engaged an outside investigator to make a study of that problem in his plant.

The cost accounts were divided into three main groups: material accounts, labor accounts, and burden or overhead accounts. Only direct material was in the material accounts, all indirect materials and supplies being classified as burden. Indirect labor went first into the labor account but was transferred later to burden accounts. The direct material and labor costs incurred on each order were charged directly to that order; the charges

to labor were made from the pay roll, and those to material were made from summaries of requisitions and credit slips.

"Burden" contained expenses classified as follows:

Account No.	Name
M1	Foremen and Supervisors
M2	General Indirect Labor
M3	Clerical Salaries
M4	Cleaning and Watching
M5	Furniture and Fixture Maintenance
M6a	Machinery and Equipment Maintenance
M6b	Mechanical Transmission Maintenance
M7a	Small Tool Maintenance
M7b	Pattern Maintenance
M8	Building Maintenance
M10	Motor Vehicle Maintenance
M11	Motor Car Operation
M12a	Insurance—General
M12b	Insurance—Liability
M13	Taxes
M14	Engineering and Experimental
M15	Telephone and Telegraph
M16	Indirect Material
M17	Traveling Expense
M18	Light
M19	Heat
M20	Power
M21	Rent
M22	Depreciation
M23	Inward Transportation
M24	Outward Transportation
M25	Gas
M26	Stationery
M27	Trucking
M28	Shipping Expense
M29	Idle Time (Wages paid employees when idle from cause for which they were not responsible)
M30	Overtime
M31	Postage
M32	Scrap Loss
M33	Reclaim
M34	Repairs to Product
M35	Stockroom Wages
M36	Water
M37	Inspection Labor
M38	Advertising and Subscription
M39	Welfare
M40	Fuel Oils

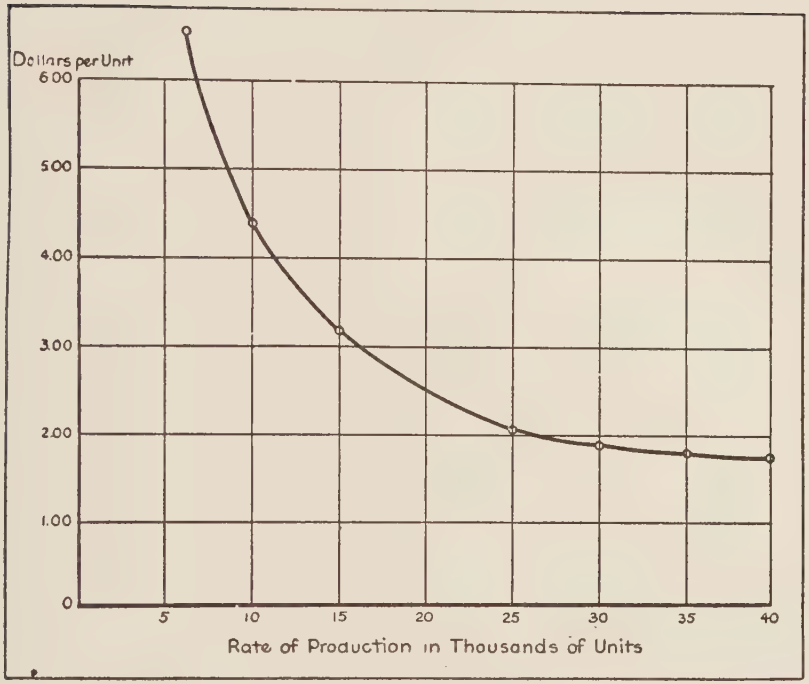

Exhibit 1: Rate of output and total indirect labor cost per unit of production in Perham Company.

M41	Cutting Oils and Compounds
M43	Restaurant
M44	Hardening Room
M46	Tools Scrapped
M47	Factory General (salaries, supplies, and other expenses not assignable to any other division)
M49	Donations and Dues
M50	Hospital Expense

Each month a share of the total burden costs was assigned to the various departments.

After a survey of the plant layout, production procedure, and the cost accounts was made, the investigator attacked the question of the relation of burden to output under the various rates of production at which the plant had operated in the past. As a preliminary to this study a reclassification of the expense accounts was made for the purpose of separating those items of expense which varied with production either in direct proportion or otherwise, from those which were practically uniform, regard-

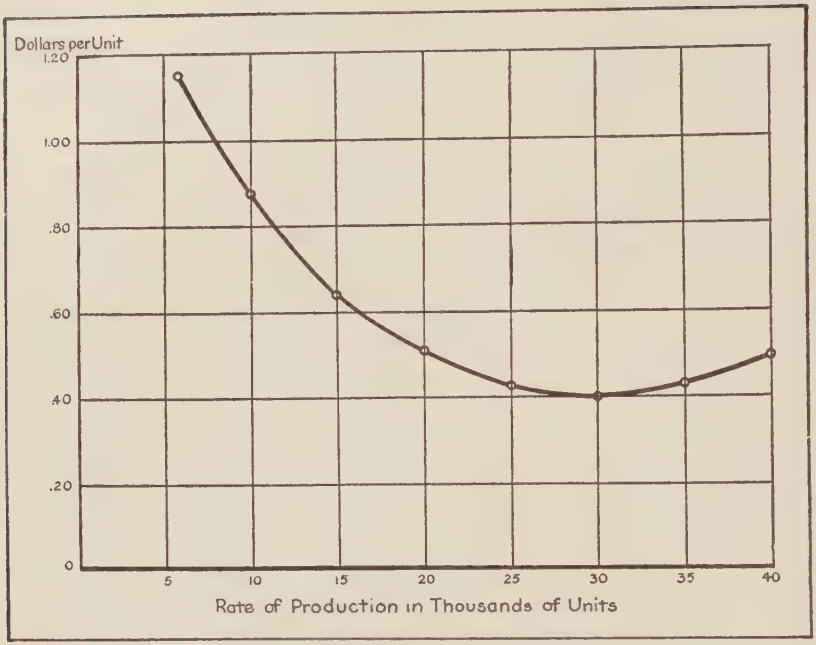

Exhibit 2: Rate of output and total indirect material cost per unit of production in Perham Company.

less of short-time variations in the rate of output. The classification was made in three main groups: indirect labor expense, indirect material expense, and miscellaneous expense. The latter was divided again into two subgroups, fixed and variable. The complete classification was as follows:

INDIRECT LABOR EXPENSE:

M1	Foremen and Supervision
M2	General Indirect Labor
M3	Clerks
M4	Cleaning and Watching
M5	Furniture and Fixture Maintenance
M6	Machinery, Equipment, and Mechanical Transmission Maintenance
M7	Maintenance and Repairs—Tools and Patterns
M8	Repairs and Maintenance of Buildings
M10	Motor Vehicle Maintenance
M11	Motor Vehicle Operation
M14	Engineering and Experimental
M27	Trucking

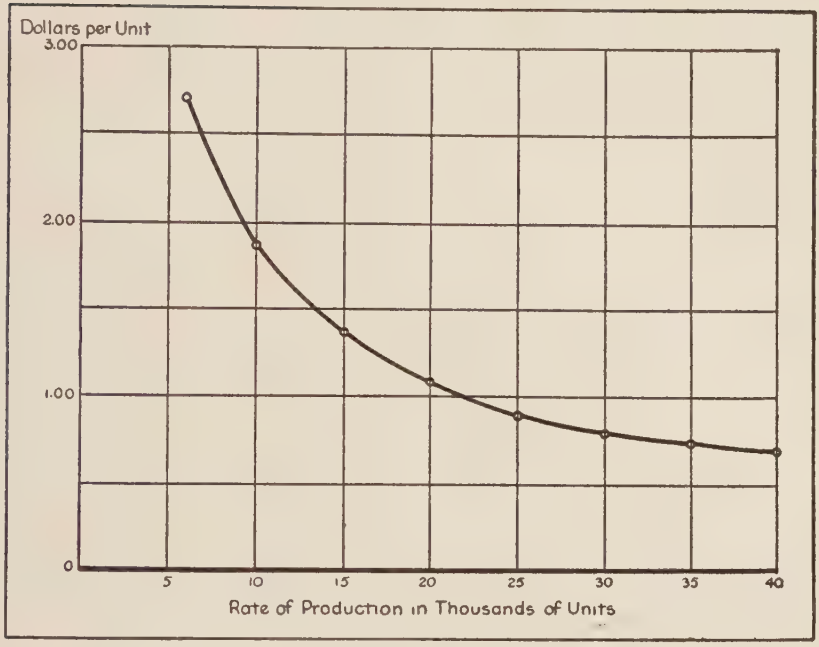

Exhibit 3: Rate of output and total fixed and miscellaneous expenses per unit of production in Perham Company.

M28 Shipping
M29 Idle Time
M30 Overtime
M32 Scrap Loss
M33 Reclaim
M34 Repairs to Product
M35 Stockroom Wages
M37 Inspection Labor

INDIRECT MATERIAL EXPENSE:

M4 Cleaning and Watching
M5 Furniture and Fixture Maintenance
M6 Machinery, Equipment, and Mechanical Transmission Maintenance
M7 Repairs and Maintenance—Tools and Patterns
M8 Building Maintenance
M10 Motor Vehicle Maintenance
M11 Motor Car Operation
M14 Engineering and Experimental
M16 Indirect Material
M28 Shipping Expense
M40 Fuel Oil

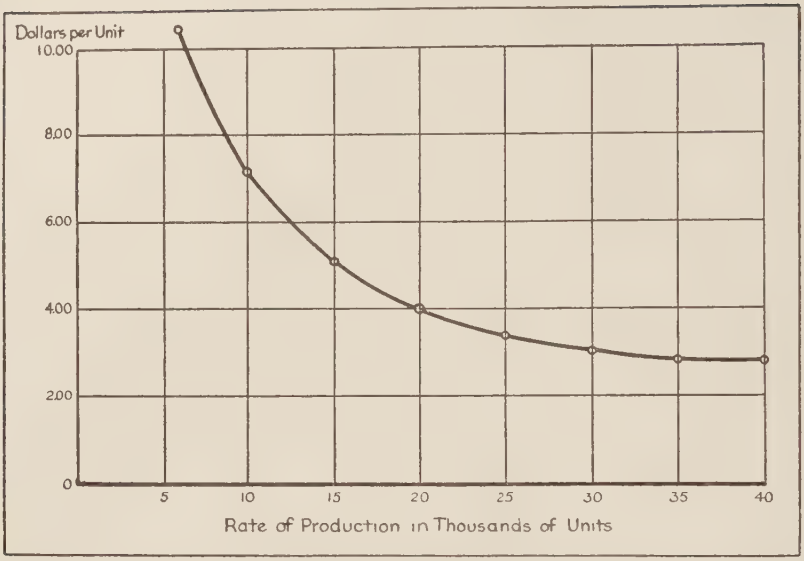

Exhibit 4: Rate of output and total overhead cost per unit of production in Perham Company.

M41 Cutting Oils and Compounds
M46 Tools Scrapped

MISCELLANEOUS EXPENSE:

VARIABLE:

M12B Insurance—Liability
M15 Telephone and Telegraph
M18 Light
M19 Heat
M20 Power
M23 Inward Transportation
M24 Gas
M26 Stationery
M32 Scrap Loss

FIXED:[1]

M12A Insurance—General
M13 Taxes
M17 Traveling Expenses
M21 Rent
M22 Depreciation
M24 Outward Transportation
M31 Postage

[1] It was recognized that even these expenses would fluctuate somewhat if the company's rate of output underwent a continued change over a period of several years.

M36 Water
M38 Advertising and Subscriptions
M39 Welfare
M43 Restaurant
M44 Hardening Room
M47 Factory General
M49 Donations and Dues
M50 Hospital Expense

Next, an analysis was made of the indirect labor expense, of indirect material expense, and of miscellaneous expense for the period January, 1923, through March, 1924.

From the analysis of the various types of burden expense, charts were made to show for the several main classifications of expense the unit costs at various rates of production: 6,000; 10,000; 15,000; 20,000; 25,000; 30,000; 35,000; and 40,000 units per month. The charts are shown as Exhibits 1, 2, 3, and 4.

The figures in Exhibit 5 were read off from the charts.

EXHIBIT 5

OVERHEAD COSTS PER UNIT OF PRODUCTION—PERHAM COMPANY

Production Increased by 5,000 Units from	Indirect Labor Costs Reduced by		Indirect Material Cost Reduced by		Miscellaneous Expense Reduced by		Total Overhead Cost Reduced by	
	Amount	%	Amount	%	Amount	%	Amount	%
6,000*	$2.53	38.7	$0.35	28.7	$0.96	35.5	$3.80	36.4
10,000	1.20	27.6	0.25	28.6	0.49	26.2	2.00	28.0
15,000	0.70	22.2	0.115	18.4	0.28	20.3	1.10	21.4
20,000	0.40	16.3	0.08	15.7	0.18	16.4	0.60	14.8
25,000	0.20	9.8	0.02	4.6	0.09	9.8	0.35	10.1
30,000	0.10	5.4	0.025†	4.9†	0.08	9.6	0.20	6.5
35,000	0.08	4.5	0.065†	15.1†	0.05	7.1	0.05	1.7

* 4,000 units increase.
† Increase.

At the rate of production of 25,000 units per month, the Perham Company's full productive capacity was required. To exceed that rate, the company had either to use night shifts, or to build and equip an additional plant. For night work, wages were higher than for day work, and the quality of the output was less satisfactory.

The company expected that its sales in 1925 might require production at about the following monthly rates:

Month	Production
January	24,496
February	27,294
March	34,966
April	38,151
May	39,836
June	30,521
July	31,744
August	14,575
September	13,257
October	6,047
November	18,505
December	23,373
Total	302,765

Should the company have planned to duplicate its plant, to set a limit on its sales in any one month, or to accept all orders obtainable at its usual prices?

5. Eastern Association of Pig Iron Manufacturers[1]

Costs of producing pig iron

The Eastern Association of Pig Iron Manufacturers, the members of which were producers of pig iron selling in the "merchant" market, in September, 1924, requested the United States Tariff Commission to make an investigation looking toward an increase in the rate of duty on pig iron. Under the Tariff Act of 1922 this was 75 cents a ton. The "merchant" furnaces, that is, those selling in the "merchant" market, made pig iron principally for sale to iron foundries; they seldom carried on the manufacture of steel. The large steel plants produced pig iron which was mainly for use as raw material in their own steel mills, and they sold any surplus output in the open market in competition with the merchant furnaces. About one-fifth of the pig iron produced in the United States was manufactured by merchant furnaces, the other four-fifths was largely used in molten condition for making steel.

Only a small quantity of the total domestic consumption was supplied by imports, and practically all the imported pig iron was used within a radius of 200 miles of the port cities. Prior to the World War imports occasionally reached an appreciable

[1] Based upon preliminary statement published by the United States Tariff Commission, Washington, D. C., March 9, 1926.

EXHIBIT 1

GRADES OF FOUNDRY IRON AS DETERMINED BY SILICON CONTENT (EASTERN MARKET)

Grades	Silicon Content (percentage)
1X	2.75-3.25
1	2.25-2.75
2X	2.25-2.75
2	1.75-2.25
3	1.25-1.75
4	0.75-1.25

volume; but from 1909 to 1921, inclusive, the largest importation was 107,500 long tons in 1920. In 1921, only 27,000 tons were imported; but in 1922, when extremely low prices in Europe coincided with business recovery in the United States, the total import was 383,000 tons, or 1.4% of domestic production. In 1923 and early 1924 imports declined; but beginning in December, 1924, they increased and in 1924 were 441,500 tons. The merchant furnaces in Eastern Pennsylvania, Virginia, and New Jersey bore the brunt of this competition; and those in Virginia and New Jersey, finding prices low, and freight rates on both raw materials and the finished product high, were forced to close down. Pig iron prices were at levels which, in the case of one producer owning an iron-pipe foundry, made it more economical

EXHIBIT 2

AVERAGE MONTHLY PRICE OF 2X FOUNDRY PIG IRON, DELIVERED AT PHILADELPHIA, 1919-1925*

(Per long ton)

Month	1919	1920	1921	1922	1923	1924	1925
January	$36.15	$43.90	$35.00	$21.55	$29.56	$24.26	$26.01
February	36.15	45.00	31.00	21.35	30.10	24.26	26.07
March	35.10	45.68	27.40	23.60	32.00	24.13	24.90
April	31.00	46.80	26.25	23.75	32.75	23.73	23.33
May	30.10	46.90	26.10	25.60	32.75	22.60	22.26
June	29.60	46.90	26.00	27.20	30.60	21.76	21.76
July	29.50	48.55	23.50	27.90	28.00	21.76	21.51
August	29.60	50.95	21.00	32.15	25.80	21.76	21.71
September	29.95	53.75	21.40	34.25	26.20	21.26	21.82
October	32.00	52.65	22.00	33.00	24.50	21.36	22.41
November	35.85	46.75	22.50	30.50	23.00	22.98	24 48
December	40.75	38.95	22.10	28.45	24.26	24.88	24.68
Average	32.98	47.23	25.35	27.44	28.29	22.90	23.41
High	40.75	53.75	35.00	34.25	32.75	24.88	26.07
Low	29.50	38.95	21.00	21.35	23.00	21.26	21.51

* From *Iron Trade Review.*

to buy iron in the open market than to operate the iron-making plant of the company.

Most of the pig iron sold in the open market is foundry iron (70% in 1924), which is graded and priced largely according to the silicon content. The standard Number 2 contains 1.75% to 2.25% silicon. Grades with a silicon content above 3.25% and below 7% are classed as high silicon or "silvery," and those above 7% are called "ferrosilicon." The amount of coke required for the manufacture of foundry pig iron increases with the silicon content, and a differential of 50 cents a ton for each one-half per cent increase in silicon is usually maintained. The market grades of foundry iron are designated in Exhibit 1.

Price quotations in the weekly trade journals (notably the *Iron Age* and *Iron Trade Review*) are for sales made during the preceding week and include both spot sales of small quantities and forward contracts for larger amounts. These present a fairly accurate trend of prices in the domestic pig-iron market.

Exhibit 2 shows the monthly quotations of foundry iron delivered in Philadelphia, January, 1919, to December, 1925.

An investigation of the domestic costs of producing pig iron was undertaken by the Tariff Commission, which continued through June, 1925. This cost investigation embraced plants in the Buffalo, Eastern, Virginia, Alabama, and Western districts.

EXHIBIT 3

DOMESTIC COST OF PRODUCTION OF FOUNDRY AND MALLEABLE PIG IRON, BY DISTRICTS, JULY 1, 1922, TO MARCH 31, 1923, AND CALENDAR YEAR 1924

(Per long ton)

Item	1922-1923				
	Eastern	Virginia Tennessee	Alabama	Buffalo	Western
Costs of materials:					
Iron ore, etc.	$10.38	$ 9.89	$ 7.39	$ 8.20	$10.59
Fuel	12.23	11.68	5.47	11.09	10.60
Flux (Limestone, etc.)	.84	.95	.31	.57	.65
Total material costs	23.45	22.52	13.17	19.86	21.84
Direct labor costs	1.21	2.13	1.22	1.04	.80
Relining of furnaces	.37	.47	.55	.25	.29
Other plant costs	1.61	1.54	1.83	1.92	1.96
Total plant costs	3.19	4.14	3.60	3.21	3.05
By-product credits	.08	.....	.47	.32	.47
Net plant costs	26.56	26.66	16.30	22.75	24.42
Overhead	1.13	1.37	.56	1.46	.88
Total cost:					
Excluding interest	27.69	28.03	16.86	24.21	25.30
Including computed interest on depreciated fixed assets at 6%	28.72	29.17	18.14	25.32	26.40

The Western district includes the territory between the Allegheny Mountains and the Mississippi River, and north of the Ohio River. There are a few furnaces west of the Mississippi River, but their production is small and is consumed largely in the intermountain region. One plant in Provo, Utah, ships iron to the Pacific Coast. As this plant was not in operation in 1923, and was active only a short time in 1924, its costs were not included in the investigation.

Cost data were obtained from large and small, old as well as modern plants, and from both the steel works and the merchant furnaces. All classes of plants were included as nearly as possible in proportion to their capacity and all kinds of iron in approximate proportion to their production.

In the course of the investigation, cost data were obtained covering two periods: the first (hereafter designated 1922-23 costs) dated from July 1, 1922, to March 31, 1923, and the second (hereafter designated 1924 costs) covered the calendar year 1924. It should be noted that costs calculated on the data obtained for the 1922-23 period are influenced by the coal miners' and railway shopmen's strikes, which occurred during the fall of 1922, resulting in high costs of raw material, especially coke. In general data were obtained from a larger number of plants in 1922-23 than in 1924, but in some cases plants were

EXHIBIT 3 *(Continued)*

DOMESTIC COST OF PRODUCTION OF FOUNDRY AND MALLEABLE PIG IRON, BY DISTRICTS, JULY 1, 1922, TO MARCH 31, 1923, AND CALENDAR YEAR 1924

(Per long ton)

Item	1924				
	Eastern	Virginia Tennessee	Alabama	Buffalo	Western
Cost of materials:					
Metallic mixtures (Iron ore)	$ 9.84	(Data not available)	$ 8.91	$ 8.19	$10.55
Fuel	8.32		5.42	8.34	6.38
Flux (Limestone, etc.)	1.03		.20	.51	.49
Total material costs	19.19		14.53	17.04	17.42
Direct labor costs	1.47		1.17	1.44	.90
Relining of furnace	.35		.82	.29	.18
Other plant costs	1.48		1.93	1.53	2.08
Total plant costs	3.30		3.92	3.26	3.16
By-product credits	.36		.46	.36	.75
Net plant costs	22.13		17.99	19.94	19.83
Overhead	1.56		.38	1.21	.76
Total cost:					
Excluding interest	23.69		18.37	21.15	20.59
Including computed interest on depreciated fixed assets at 6%	25.17		19.39	22.16	21.50

EXHIBIT 4

DOMESTIC COST OF PRODUCTION OF ALL KINDS OF PIG IRON IN MERCHANT AND INTEGRATED STEEL PLANTS, JULY 1, 1922, TO MARCH 31, 1923, AND CALENDAR YEAR 1924

(Per long ton)

Item	Merchant Furnaces		Steel Works Furnaces	
	1922–23	1924	1922–23	1924
Cost of materials:				
Metallic mixture (Iron ore)	$ 9.78	$ 9.79	$ 9.68	$ 9.23
Fuel	11.03	7.69	7.49	5.45
Flux	.77	.66	.62	.50
Total material costs	21.58	18.14	17.79	15.18
Direct labor costs	1.17	1.47	.69	.74
Relining of furnaces	.34	.30	.32	.46
Other plant costs	1.73	1.50	1.82	1.85
Total plant costs	3.24	3.27	2.83	3.05
By-product credits	.25	.29	1.05	.93
Net plant costs	24.57	21.12	19.57	17.30
Overhead	1.10	1.27	.62	.36
Total cost:				
Excluding interest	25.67	22.39	20.19	17.66
Including computed interest on depreciated fixed assets at 6%	26.78	23.52	21.32	18.44

able to furnish data in 1924 which could not furnish them in 1922-23. Exhibit 3 summarizes the figures of cost as determined for the production of the classes of iron largely sold in the merchant market, by the principal producing districts.

Operating conditions in merchant plants differ from those in integrated steel plants. The pig iron plants of steel works are usually, though not always, considerably larger as to number of units and capacity of individual stacks than are the merchant furnaces. The investment in auxiliary equipment in large plants is lower per ton of capacity than in the small plants. The large steel mills usually have their own sources of raw materials, and are in more continuous operation because of a steadier outlet for their pig iron.

The costs of production of pig iron shown in Exhibit 4 are for merchant furnaces and integrated plants operating in 1922-23, and 1924. The costs shown in this table are represented by cumulative curves on the charts in Exhibits 5 and 6. In comparing the figures for merchant furnaces and integrated steel plant furnaces, account must be taken of the fact that merchant furnaces produce a large proportion of foundry iron, while integrated plants produce largely basic iron, that is, iron to be used in making steel by the "basic open-hearth method," and that the cost of basic iron is nearly $1 a ton lower than that

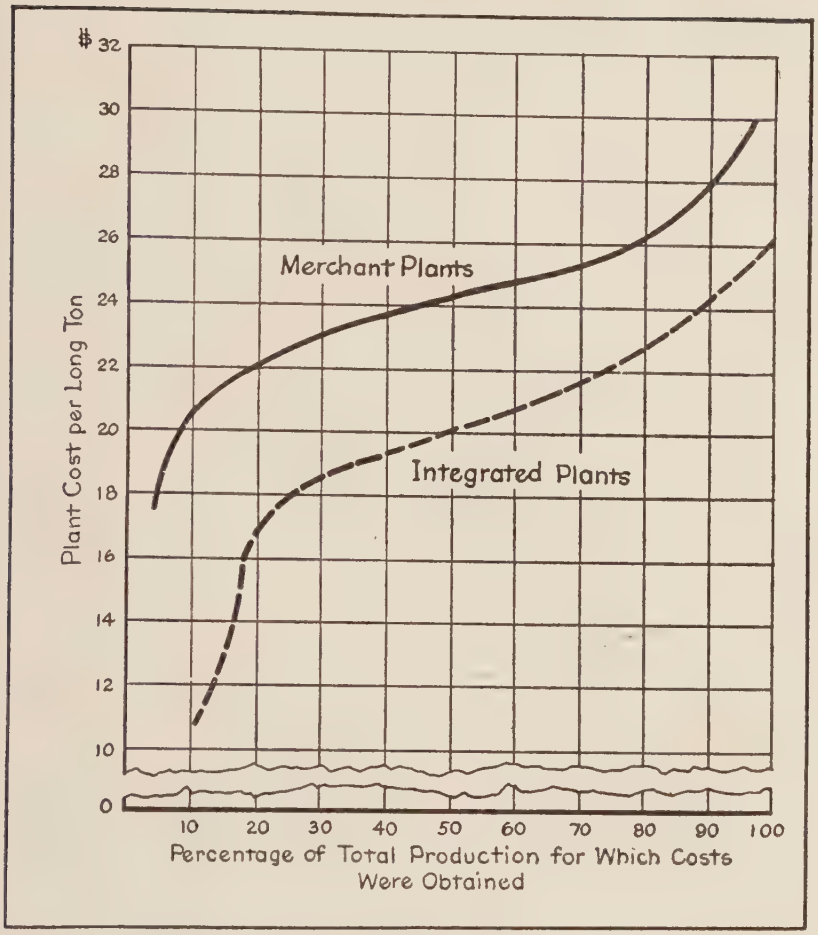

Exhibit 5: Cumulative cost curve of pig iron, July 1, 1922, to March 31, 1923.

of foundry iron when the two are produced in the same plant.

Cost data were not obtained from foreign producers of pig iron, but a study was made of invoices of approximately 80% of all imports entered at the ports of Boston, New York, and Philadelphia during the period January 1, 1922, to November 30, 1925. Many of these invoices failed to specify the kind of pig iron, and others were unsatisfactory in that they did not include prices in sufficient detail.

The final tabulation included only invoices containing definite reliable information.

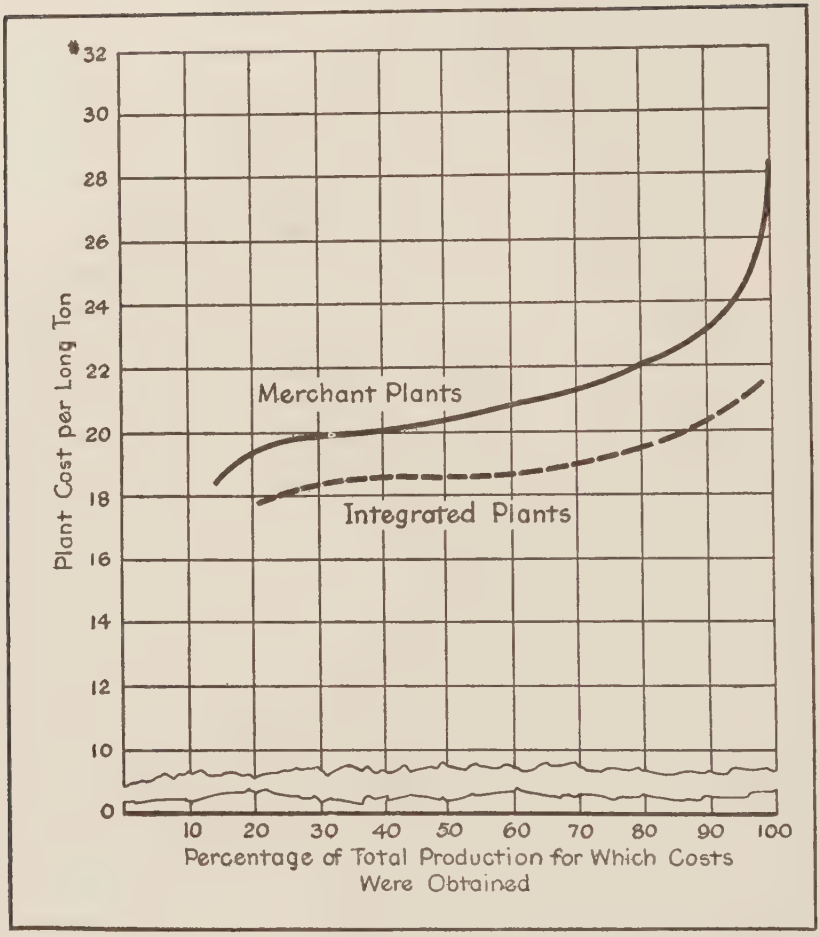

Exhibit 6: Cumulative cost curve of pig iron, 1924.

Exhibits 7 and 8 compare the costs of production of domestic pig iron with the prices of imported pig iron on the assumption that the cost of production of foreign iron is not greater than the invoice price of the imported pig iron. These comparisons are made for the year 1924 only.

The domestic cost of pig iron is compared with the price f.o.b. foreign plant, and also with the price delivered in the competitive markets, that is, plant cost plus transportation and other charges, to Philadelphia and Boston.

Exhibit 7

Comparison of Cost of Production of Foreign and Domestic Foundry and Malleable Iron, 1924*

(Per long ton)

Item	Domestic Iron			Foreign Iron		
	Eastern District	Buffalo District	Alabama District	British India	Great Britain	Continental Countries†
Costs, transportation not included: F.o.b. plant	$25.17	$22.17	$19.39	$13.36‡	$18.66	$15.29
Cost or price, transportation included:						
Cost, f.o.b. plant	$25.17	$22.17	$19.39	$13.36	$18.66	$15.29
Transportation and other charges to:						
Philadelphia§	1.25‖	.....	6.01	6.65	3.52	4.09
Boston	.....	4.91	.....	6.65	3.52	4.09
Total cost delivered in:						
Philadelphia	26.42	.....	25.40	20.01	22.18	19.38
Boston	.....	27.08	.....	20.01	22.18	19.38

* Domestic costs are from producers' books and foreign costs as indicated by invoice prices.
† Includes the cost for plants located in Germany, France, Belgium, and Luxemburg.
‡ Approximate figures. From price f.o.b. foreign port, $0.90 was deducted to cover inland freight.
§ Other charges include consular fee, brokerage, transshipment, and insurance.
‖ Average. Rates range from $0.76 to $1.39.

Exhibit 8

Comparison of Domestic Cost of Production of Foreign and Domestic Basic Iron, 1924*

(Per long ton)

Item	Domestic Iron				Foreign Iron
	Eastern District	Western District	Buffalo District	Alabama District	British India Iron
Costs, transportation not included: F.o.b. plant	$20.73	$21.67	$19.68	$13.20	$12.51
Cost or price, transportation included: Cost, f.o.b. plant	$20.73	$21.67	$19.68	$13.20	$12.51
Transportation and other charges† to Philadelphia	1.25‡	5.63	4.91	6.01	6.66
Total cost delivered in Philadelphia	21.98	27.30	24.59	19.21	19.17

* Domestic costs from producers' books and foreign costs as indicated by invoice prices.
† Other charges include consular fee, brokerage, transshipment, and insurance.
‡ Average. Rates range from $0.76 to $1.39.

1. Why do the "merchant" furnaces have higher costs than the "steel-works" furnaces?

2. What factors determine the extent of foreign competition?

3. Does the price of pig iron determine which blast furnaces operate or the supply of iron determine (under given conditions of demand) the price of pig iron, in the short run? The long run?

4. If the price of pig iron continues to drift downward, what will be the effect on the Eastern producers? Upon the producers of Virginia, Tennessee, and Alabama?

VII

COORDINATION OF SUPPLY AND DEMAND

Black, 640-654, 702-735; Bye, 306-324, 337-341; Clay, 242-278; Edie, 113-143, 174-182; Ely, 175-179; Fairchild, I, 248-295, 314-344; Gide, 131-142, 237-240; Marshall, 323-336, 363-380, 496-503; Rufener, 87-117; Seager, 109-152; Seligman, 223-240, 255-257; Taussig, I, 134-155, 167-194; Turner, 123-171.

1. Egg Production and Prices[1]

SEASONAL INFLUENCES OF SUPPLY AND DEMAND

The production of eggs is decidedly seasonal in character. During the spring and early summer months production is at its height, and the quantity available for market is far in excess of the consumptive demand at that time. In the fall and winter months, on the contrary, the marketable surplus of eggs of current production is far below the demand for consumption. Before the advent of cold storage of eggs there was no efficient means of holding over commercially the surplus crop of the season of flush production to the season of scarcity. In consequence the prices of eggs were very low during the spring and summer, often being so low that it did not pay to gather and market the eggs. In the fall and winter, on the other hand, the prices shot up very high, relatively, but even at such prices eggs were not available for free use by the majority of the population.

With the advent and commercial development of cold storage this condition changed. The surplus egg crop of the season of flush production is now placed in cold storage and held in a wholesome condition until the period of scarcity, when it is drawn upon to supplement the inadequate supply of fresh-laid eggs produced at that time. Owing to the demand for eggs for storage in the spring, the prices of eggs, while still at or near the lowest point of the year during this period, are kept from sinking

[1] Adapted from *The Poultry Industry*, U. S. Department of Agriculture, No. 917, Washington, D. C., 1925.

to the ruinously low levels previously reached. Similarly, the available supply in the warehouses during the fall and winter, although it does not interfere with the sale of high-class fresh eggs at highly satisfactory prices, furnishes eggs at a moderate price to the great majority of consumers who otherwise would be able to use eggs only to a limited extent, if at all.

The movement of eggs into storage normally begins in a comparatively small way in March, proceeds at a rapidly accelerated rate during April and May, slackens perceptibly during June, and in concluded with a comparatively small movement into storage during July, the high point in storage holdings being reached about August 1. The movement of eggs out of storage normally begins slowly in August, becomes more rapid in September and October, reaches its most rapid rate during November and December, and then gradually tapers off until the storage warehouses are practically emptied by March 1.

Poultry products include primarily eggs and poultry meat, which are eaten by practically all classes of people and which also have various industrial uses. Eggs of all domesticated poultry are edible products, but probably 99% of the total produced in the United States, and as large a proportion of the imports, are eggs produced by chickens. Production and trade in eggs of turkeys, guinea fowls, ducks, and geese are of only negligible importance.

Eggs enter consuming channels chiefly in the shell form and as such are consumed primarily in households, although bakers and confectioners also use considerable quantities in the shell. Very few eggs other than those in the shell pass through the familiar culinary outlets. Egg products are consumed mainly by wholesale bakers and by confectioners. Of these, the frozen products serve largely as an ingredient of cakes, and dried eggs find their outlet chiefly in the baking of pies, sweet specialties, and confections.

Because of their nutritive value and the ease with which they may be prepared in a variety of appetizing ways, eggs have a distinct place in the diet. Like meat, their protein content is high; like milk, they contain most of the essentials for growth and repair of body tissues.

The ways of using eggs in the diet are almost limitless. They

may form the main dish at breakfast or luncheon or enter as an ingredient into almost any complex dish at dinner from the soup to the dessert course.

Both eggs and dressed poultry are highly perishable products. Unless they are marketed promptly after they are produced or are handled under conditions which are suitable for preserving their quality, they will deteriorate very rapidly and eventually spoil. Since spoilage means loss and deterioration means a lessened value, methods of handling, processing, grading, and transporting have been devised to prevent them, and this again has increased the tendency toward specialization and complication of the marketing process.

The channels of trade through which eggs reach the terminal markets are numerous. In a broad way these channels may be divided into those in which the eggs are shipped by the producer direct to the terminal market and those in which the eggs pass through a concentration point after they leave the hands of the producer, there to be combined with other similar lots for shipment to the terminal market.

The chicken industry of the United States comprises several million flocks of varying sizes, including farm flocks, commercial flocks, and back-yard flocks. The size of each of these three kinds of flocks varies considerably, and there are many farm flocks that contain more chickens than many commercial flocks. The important point of distinction in connection with the three kinds of flocks is somewhat as follows: A farm flock is regarded as such when the labor income from the farm is derived not only from chickens but also from hay, grain, other classes of live stock, dairy products, fruits, vegetables, or other products; the relative amount of labor income derived from the chickens may be of minor or of major importance. A commercial flock is regarded as such when the labor income is derived almost entirely from the chickens. A back-yard flock is regarded as such when usually only a few chickens are kept on a city, town, or village lot either for the primary purpose of breeding standard-bred chickens for exhibition or breeding purposes, or primarily for the purpose of providing eggs and poultry meat for the home table. Back-yard flocks are kept for the most part by women and business and professional men. The number of chickens kept

in back-yard flocks, as well as the value of their product, is not taken into consideration in this article, because the census returns do not include the enumeration of such flocks. This omission is unfortunate, inasmuch as back-yard flocks would add several million dollars to the estimated value of the poultry industry.

The fundamental factors affecting the net revenue obtained from chickens vary somewhat in the case of farm, commercial, and back-yard flocks. On the grain and stock farm the relative cost of raising the young stock and of producing eggs and poultry meat is less than in the case of commercial and back-yard flocks. On the other hand, commercial poultry men usually have the advantage over farmers of securing greater average egg production per bird and higher prices for their products. Commercial poultry farms are located for the most part in the northeastern section of the country and on the Pacific Coast. In other sections of the country commercial farms are located in the vicinity of the larger cities. Nearness to market, good shipping facilities, and volume of production are three valuable assets that usually enable the commercial producer to obtain a relatively larger net revenue per bird than the farmer.

Feed, labor, and fuel are the most important items concerned in the cost of raising chicks. In connection with labor, however, practically no figures are available from any part of the country which would show the amount of labor involved in raising a given number of chickens. It is readily understood how difficult it would be to keep records of the time employed in raising chickens on the farm, but it is unfortunate that the majority of commercial poultry men have not made a practice of recording the amount of labor involved in raising chicks to maturity in contrast with the amount of labor involved in caring for the laying stock. As a matter of fact, the commercial poultry man would not find it easy to keep a separate item of the labor required in rearing his chickens, because this rearing is done simultaneously with other work. Fuel is another item in the cost of rearing concerning which practically no figures are available as to the quantity required during the brooding period.

The cost of producing eggs is affected by many factors which vary in different sections and which change from year to year, the three most important being labor, feed, and the average

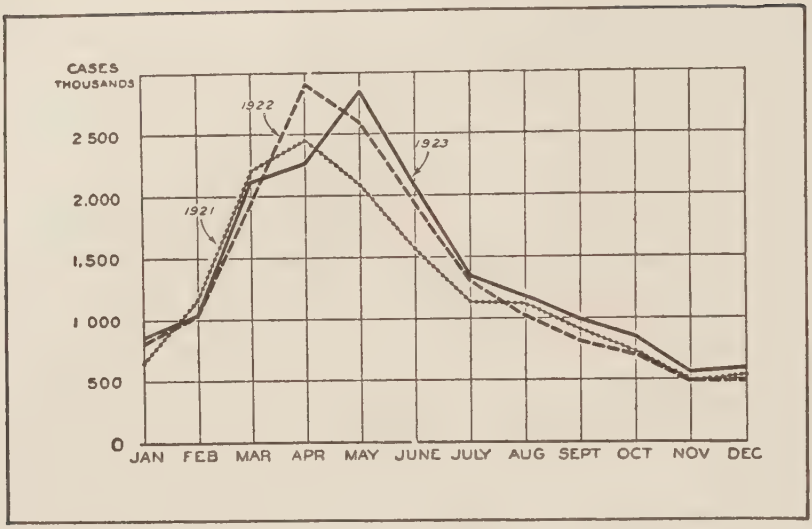

Exhibit 1: Seasonal variation in receipts of eggs at five chief markets, 1921-1923.

number of eggs laid per bird. Feed is the most important item, since it normally represents from one-half to two-thirds of the total cost of production.

In the case of farm flocks, the amount of labor spent in caring for the chickens varies from season to season and is practically an undetermined quantity. In the case of commercial flocks, however, the net income may be regarded as the labor income, since practically all of the labor is devoted to the chickens.

The economic importance of high over low average egg production may be illustrated by reference to the results obtained in commercial flocks in New Jersey in 1923. The flocks were divided into two groups, those which laid under and those which laid over 160 eggs as the flock average. In the first group the average production per flock was 146.3 eggs, and the cash value in eggs produced was $3.47 per bird. In the second group the average production per flock was 178.4 eggs, and the cash value in eggs produced was $4.59 per bird. The second group showed an excess return of $1.12 per bird over the first group.

In actual practice there are four primary factors which affect economic returns in relation to the cost of feed consumed and the value of eggs produced. These four factors are: (1) the quantity

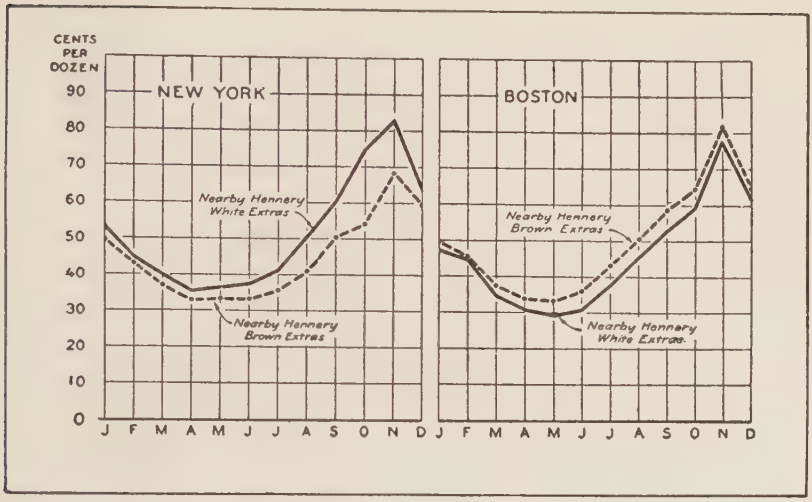

Exhibit 2: Wholesale prices of white and brown eggs at New York and Boston, 1923.

of feed consumed; (2) the price of feed from time to time; (3) the number of eggs produced; and (4) the prevailing price of eggs at the time of production. The poultry man has little or no control over the price of feed or the price of eggs. Under ordinary conditions, the average quantity of feed consumed per bird, as discussed previously, from month to month is fairly stable. The poultry man can control the rate of egg production at different times of the year, and it is this particular aspect that deserves special mention. There is some variation in feed prices from season to season throughout the year but not nearly to the same extent as pertains to egg prices. Monthly trends in egg receipts and prices are as shown in Exhibits 1, 2, and 3, from which it will be seen that relatively high prices prevail during the fall and winter months as compared with spring and summer prices.

The seasonal variation in receipts of eggs on the five markets shown in Exhibit 1 reflects accurately the seasonal variation in production. Receipts are heaviest during the spring months, gradually decline during the summer and fall, and reach their lowest point in November or December. From this point they increase again rapidly until they reach their highest point in April or May.

In Exhibit 2 the New York market shows a price preference

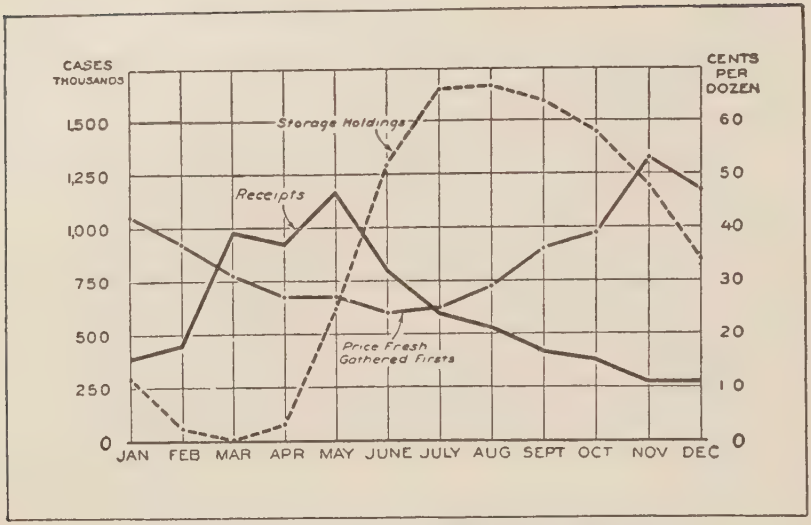

Exhibit 3: Receipts, storage holdings, and wholesale prices of eggs, New York, 1923.

which is nearly uniform throughout the year for white eggs as compared with brown, while the reverse is true in Boston. The shell color of eggs, although having no effect on their food value or quality, is therefore a factor to be considered in selecting the market to which shipment should be made.

As shown by Exhibit 3, the excess of receipts during the season of flush production depresses prices until they reach a point where it pays to place eggs in cold storage and hold them for the period of scarcity, when prices are higher. Consequently, storage holdings accumulate during the season of flush receipts and low prices and are drawn upon for use during the season of light receipts and higher prices. If production and receipts were uniform throughout the year, the price also would remain more nearly uniform and there would be little need to hold eggs in cold storage.

1. It has been stated that the cold storage of eggs, by making prices somewhat more stable throughout the year, has served also to stabilize the conditions of supply in the industry. Do you agree?

2. What economic function does cold storage perform? Is this beneficial to the producer? To the consumer?

2. General Motors Corporation[1]

COORDINATION OF SUPPLY AND DEMAND

In a letter to the corporation's stockholders dated April 15, 1926, Alfred P. Sloan, Jr., president of the General Motors Corporation, said:

If the production of goods could be so controlled as exactly to accord with the actual necessities and desires of the consumer; and if the rate of production were so controlled that as goods were produced they would flow through channels and eventually into the hands of consumers with no excess accumulation of stocks in the hands of any intermediary, there would result a sustained balanced condition between the consumption of goods and purchasing power. Unfortunately, most goods must take a long devious road between the manufacturer and the consumer. Were there a positive control, no economic waste would arise from the production of goods beyond the bounds of current consumption, and there would follow a gradual expansion of both production and consumption because of the surplus earnings which industry could put back into productive use.

Overproduction of goods results primarily from a lack of knowledge as to actual consumer demand, owing to the various intermediaries through which most goods must pass between the time they leave the manufacturer and the time they arrive in the hands of the ultimate consumer. Shifting desires on the part of the consumer, which the manufacturer cannot gauge accurately, together with overestimation of the extent of consumer demand by the manufacturer or by some intermediary, result in the accumulation of excessive stocks of goods in the hands not only of manufacturers, but also the suppliers, the wholesalers and retailers. When business reaches this stage, production must be curtailed, not only to conform to the lower level of consumption, but also to permit the liquidation of excessive stocks of goods accumulated. Production, and therefore purchasing power, is forced temporarily to a subnormal level, a condition which in turn accentuates the business depression.

The automotive industry should be recognized as perhaps the most important factor in the industrial life of our country, when consideration is given to the capital employed and the wage earners employed directly, as well as to the enormous number of industries from which materials that go into the finished automobile are derived. The motor car manufacturer, to an extent not approached by any other line of industry of any magnitude, has at his disposal a ready means of gauging the state of the consumer demand for the product. There are no intermediaries

[1] Adapted, by permission, from the letter and from a report to the stockholders of the General Motors Corporation, August 20, 1926, and from *Financial Control Policies of General Motors,* by Albert Bradley, general assistant treasurer, a paper, copyrighted by the American Management Association and partly reproduced here, by permission.

between the motor car factory and the buyers of the cars—nothing but a highly specialized distributing organization with which the manufacturer has direct contact.

Frequent reports of the actual movement of cars into the hands of the buyers from the distributors and dealers throughout the country, and an intelligent appreciation of the seasonal characteristics of this movement, enable the automobile manufacturer to maintain a close working knowledge of the state of retail sales. Opportunity is thus afforded to modify production of cars promptly to meet any changing tendencies.

In the carrying out of this program, the company seeks to establish its production schedules so that they shall be based absolutely upon the ability of its distributors and dealers to sell cars to the public. Each car division (Chevrolet, Oldsmobile, Oakland, Buick, Cadillac) now receives from its dealers every 10 days the actual number of cars delivered to consumers, the number of new orders taken, the total orders on hand, and the number of new and used cars on hand. Each 10-day period the actual results are compared with the forecast which has been made and upon which manufacturing operations are being maintained, and each month, as these figures are received, the entire situation is carefully analyzed to see whether the original estimate was too high or too low. If it is decided that the estimate was too high, the production schedule is immediately reduced. If, on the other hand, it is found that the retail demand is greater than had been estimated, the production program is increased, provided the plant capacity permits. In this way the production program is analyzed month by month, in fact, 10-day period by 10-day period, and the necessary adjustments in the production schedule and in the estimate of the year's volume are made. In other words, instead of attempting to lay down a hard and fast production program a year ahead and to stick to it regardless of the retail demand, the Corporation now follows the policy of keeping production at all times under control and in correct alignment with the indicated annual retail demand, and with the minimum accumulation of finished product in the hands of dealers for seasonal requirements which the flexibility of production schedules permits.

This problem is complicated by the seasonal character of the automobile business. Thus, the spring months always have been and still are the months of heaviest retail purchases of motor cars

by the public. Although by far the larger proportion of automobiles are in service the year round, the buying urge still appears to be strongest in the spring, when every one wishes to buy a new car. Even the trend toward closed cars, the proportion of which for General Motors Corporation has more than doubled during the years 1923-1926 (now amounting to over 75% of the total) does not appear to have materially altered the seasonal trend. Seasonal variation, therefore, makes it necessary to have a greater number of cars available to retail purchasers at certain times of the year than at others. An analysis based primarily on the experience of the General Motors Corporation indicates there must be available for delivery in the peak month of April almost four times as many cars as during December or January, and about twice as many as during each of the months of July, August, September, and October. The peak three months' period, March, April, and May, represents 37.5% of the year.

A study of the flow of cars to the consuming public throughout the world indicates that there is scarcely any zone of distribution which does not have a more or less distinct seasonal variation in the retail demand. This makes it necessary to have a greater number of cars available for delivery to retail purchasers at certain times of the year than at others. Analysis of retail deliveries of cars throughout the United States indicates a standard trend or assumed normal average distribution by months about as shown in Exhibits 1 and 2.

EXHIBIT 1

PERCENTAGE OF THE YEAR'S DELIVERIES TO CONSUMERS MADE IN EACH MONTH

January	4.2%	July	8.3%
February	5.0	August	8.0
March	10.2	September	8.1
April	16.0	October	8.0
May	11.3	November	5.9
June	9.5	December	5.5

From the retail dealer's standpoint, the ideal way of meeting the seasonal situation would, at first glance, appear to be for the factory to vary its output in order to conform to the seasonal consumer demand. There are several good fundamental reasons why this cannot be done.

In the first place, factory capacity, in order to permit the manufacture in one month of April requirements, 16.0% of the

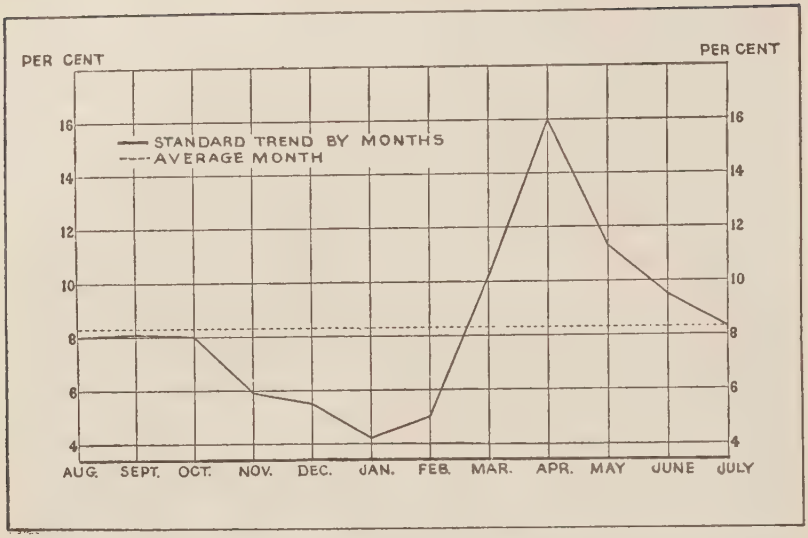

Exhibit 2: Monthly percentage distribution of yearly sales volume of General Motors Company.

year's volume, must be almost twice as great as would be required to operate on an absolutely level production basis, which would require but 8.3% of the year's volume each month. The result would be that the capital investment in plant must be excessive, fixed charges for depreciation, taxes, and so forth, would be increased, so that larger earnings would be necessary to provide an equivalent return on the increased capital and to absorb the additional burden of plant maintenance, and so forth. This would require higher list prices for the finished product, which, however, would create sales resistance and thereby decrease the market. Such a plan of increasing capacity to take care of the peak month's requirements is, therefore, fundamentally unsound from the standpoint of economical manufacture.

In the second place, even though the factory capacity were available, the plan of adjusting monthly production to monthly consumer demand would be fundamentally unsound from a standpoint even more important than that of cost: that of the labor situation. Workmen are entitled to steady employment, or as nearly steady employment as can be provided. Moreover, it is unlikely that the necessary amount of labor would be available when needed; and it is absolutely certain that no factory operat-

ing on such a varying manufacturing program would be able to keep its skilled employees, with the result that the quality of the product would suffer.

It is a fundamental principle, therefore, that in order to operate economically, and thereby offer the greatest value to the public, factories should operate on as level a line of production as can reasonably be attained; and that radical changes in production schedules should be eliminated as far as possible. Operating on a level production schedule means, of course, that during months of low retail demand the surplus of cars produced over and above those purchased by the public must be stocked by the dealers, distributors, and the manufacturers, to be liquidated in the months of peak retail demand.

From the standpoint of economical distribution, of course, it is desired to keep finished stocks down to the minimum, since the storing of this product not only requires additional capital, with its interest charge, but also expenses for insurance, and other storage costs. There is also the danger, if sales do not come up to expectations, not only that the cost of carrying stocks of finished product may be unduly increased through prolonging the period of storage, but also that losses may result from the necessity of forced selling, that is, distress merchandising, of the excess stocks at the end of the regular selling season. This phase of the problem is of vital consideration when plans are under way to manufacture a new line of products, since the necessity of liquidating excess stocks might seriously delay the new program, with resulting loss to the manufacturer, the dealers, and distributors. In short, at first glance, economical manufacture, requiring level production, and economical distribution, involving minimum stocks of finished product, appear to be diametrically opposed.

The operating program of General Motors Corporation is a compromise between the two plans just described. Factories vary their production schedules within the three limits established by (1) plant capacity; (2) the accumulation of stocks of finished product which are not excessive when viewed in their relationship to current retail demand and the necessities of seasonal requirements; and (3) the maintenance of reasonably steady rates of operation, with resulting benefits to employees through continuous employment, and the avoidance of the economic loss which results

from violent fluctuations in the rate of manufacturing operations.

The seasonal character of the retail automobile business is reflected in the figures of the sales by General Motors dealers to their customers. These figures for 1922 to 1925, as published in the public press each month, are summarized in Exhibit 3.

EXHIBIT 3

GENERAL MOTORS DEALERS' SALES TO USERS (RETAIL), 1922-1925

Months	1922	1923	1924	1925
January	11,615	31,437	33,574	25,593
February	13,651	33,627	50,007	39,579
March	30,391	74,632	57,205	70,594
April	48,203	105,778	89,583	97,242
May	52,472	90,327	84,715	87,488
June	47,020	75,423	65,224	75,864
July	31,764	62,209	60,836	65,872
August	43,508	56,846	54,842	78,638
September	34,632	60,111	48,565	83,519
October	51,414	58,173	46,003	86,281
November	36,916	47,009	33,095	60,257
December	44,748	35,709	33,919	56,129
Total	446,334	731,281	657,568	827,056

Each month also a table is published showing the wholesale sales by the manufacturing divisions to their dealers, as tabulated in Exhibit 4.

The General Motors Corporation advertises the fact that it

EXHIBIT 4

GENERAL MOTORS MANUFACTURING DIVISIONS' SALES TO DEALERS (WHOLESALE), 1922-1925

Months	1922	1923	1924	1925
January	16,088	49,162	61,398	30,642
February	20,869	55,427	78,668	49,146
March	34,082	71,669	75,484	75,527
April	40,474	75,822	58,600	85,583
May	46,736	75,393	45,965	77,223
June	48,541	69,708	32,984	71,088
July	33,772	51,634	40,563	57,358
August	42,840	65,999	48,614	76,462
September	35,443	69,081	51,955	89,018
October	40,815	86,936	49,552	96,364
November	50,232	66,256	23,631	73,374
December	46,871	61,468	19,927	54,117
Total	456,763	798,555	587,341	835,902

is its purpose to build an automobile for every purse and purpose; and the various "brands" of passenger cars have been developed to that end as follows:[1]

CHEVROLET—4 cylinders, 103-inch wheel base

Closed Cars	Price at Flint, Michigan
2-Passenger Coupé	$645
5-Passenger Coach	645
5-Passenger Sedan	735
5-Passenger Landau-Sedan	765
Open Cars	
2-Passenger Roadster	510
5-Passenger Touring	510

OLDSMOBILE—6 cylinders, 111-inch wheel base

Closed Cars	Price at Lansing, Michigan
3-Passenger Coupé	$ 925
3-Passenger Coupé De Luxe	990
5-Passenger Coach	950
5-Passenger Coach De Luxe	1,050
5-Passenger Sedan	1,025
5-Passenger Sedan De Luxe	1,125
5-Passenger Landau	1,190
Open Cars	
5-Passenger Touring	875
5-Passenger Touring De Luxe	980
4-Passenger Roadster De Luxe	975

PONTIAC—6 cylinders, 110-inch wheel base

Passenger Cars	Price at Pontiac, Michigan
2-Passenger Coupé	$825
5-Passenger Sedan	825
5-Passenger Landau Sedan	895

OAKLAND—6 cylinders, 113-inch wheel base

Closed Cars	Price at Pontiac, Michigan
5-Passenger Sedan	$1,095
3-Passenger Landau Coupé	1,125
5-Passenger Four-Door Sedan	1,195
5-Passenger Landau Sedan	1,295
Open Cars	
5-Passenger Touring	1,025
5-Passenger Sport Phaeton	1,095
4-Passenger Sport Roadster	1,175

BUICK—6 cylinders, 114½-128-inch wheel base

Series 115		Price at Flint, Michigan
Model 20	5-Passenger Two-Door Sedan	$1,195
Model 24	4-Passenger Sport Roadster	1,195
Model 25	5-Passenger Sport Touring	1,225
Model 26	2-Passenger Coupé	1,195

[1] Prices quoted are retail prices at the factory at the date of the case.

Model 26S	4-Passenger Country Club Coupé	$1,275
Model 27	5-Passenger Four-Door Sedan	1,295
Model 28	4-Passenger Coupé	1,275
Series 120		
Model 40	5-Passenger Two-Door Sedan	1,395
Model 47	5-Passenger Four-Door Sedan	1,495
Model 48	4-Passenger Coupé	1,465
Series 128		
Model 50	7-Passenger Sedan	1,995
Model 51	5-Passenger Brougham	1,925
Model 54	4-Passenger Sport Roadster	1,495
Model 54C	4-Passenger Country Club Coupé	1,765
Model 55	5-Passenger Sport Touring	1,525
Model 58	5-Passenger Coupé	1,850

CADILLAC—8 cylinders, 132-138-inch wheel base

Standard Closed Cars	Price at Detroit, Michigan
5-Passenger Brougham	$2,995
2-Passenger Coupé	3,100
2-Passenger Sport Coupé	3,500
5-Passenger Victoria	3,195
5-Passenger Sedan	3,250
5-Passenger Sport Sedan	3,650
7-Passenger Sedan	3,350
7-Passenger Imperial Sedan	3,535
Custom-Built Closed Cars	
2-Passenger Convertible Coupé	3,450
5-Passenger Coupé	3,855
5-Passenger Sedan	3,995
7-Passenger Suburban	4,125
7-Passenger Imperial Suburban	4,350
Open Cars	
2-Passenger Roadster	3,350
4-Passenger Phaeton	3,450
4-Passenger Sport Phaeton Double Cowl	3,975
7-Passenger Touring	3,450

All prices are exclusive of freight and war tax; that is, the buyer pays a price for his car composed of the factory price, the freight, and the war tax.

1. Why does the company regulate its production and maintain uniform prices throughout the year, rather than attempt to operate at capacity, varying its prices from month to month?

2. What factors determine the seasonal character of the demand for automobiles? (Plot the figures shown on Exhibit 4 to illustrate the seasonal changes.)

3. How did the increased popularity of the closed car affect the problem of evening out production?

4. Why did the General Motors Corporation introduce the

LaSalle in 1927? To what price class does it belong? Is the elasticity of demand the same for all classes of cars?

5. How would a period of prolonged prosperity affect the demand for the different classes of cars? Would the recurrence of depression affect all classes alike?

3. Pittsburgh Basing Point System[1]

PRICING OF COMMODITIES PRODUCED AT VARYING COSTS

At the application of various fabricating companies and associations of companies purchasing steel products for reprocessing, the Federal Trade Commission reviewed the legality of the system of quoting prices used by the United States Steel Corporation and its subsidiaries. It was alleged that this system resulted in unlawful restraint of trade and in the fixing and maintaining of unfairly discriminatory prices in the steel industry, detrimental to many steel buyers located outside Pittsburgh and to the development of the industry.

Through subsidiary companies, the United States Steel Corporation produces and sells in interstate commerce about one-half the national output of rolled iron and steel products, including belts, shapes, sheets, bars, and other rolling mill products. The company operates producing plants at Joliet, Illinois; Duluth, Minnesota; Milwaukee, Wisconsin; Pittsburgh, Pennsylvania, and elsewhere.

In the testimony before the commission, it was stated that rolled steel was made by the company's subsidiaries in the Chicago district at costs substantially lower than those of its plants at Pittsburgh and at other points east of Gary, Indiana. Over one-fifth of the rolled steel made in the United States was produced by the defendant companies at Gary, Joliet, East Chicago, and Indiana Harbor, all located at a short distance from Chicago. The lower production costs at these points were attributed to proximity to ore and coal mines.

Since about 86% of the total iron ore production was in the Lake Superior district, as contrasted with only 2½% in Pennsylvania, New York, and New Jersey, it was alleged that the

[1] Adapted from proceedings of the Federal Trade Commission: *Applications, Answers, and Statements Concerning the So-called Pittsburgh Basing Point for Steel,* October 15, 1919; also Docket No. 760, decided July 21, 1924.

greatest normal growth in iron and steel production would naturally be in the Chicago district, and that increased demand for those products would occur in the Middle West and the Chicago district.

For the products of its plants in the Chicago system, the United States Steel Corporation charged buyers according to the pricing system known as the "Pittsburgh Base." That is, Pittsburgh was chosen as the basing point for quoting prices, and the products made at other points, such as Chicago, and sold to buyers in that or any other district, were quoted to those buyers at whatever prices prevailed at the time in Pittsburgh, plus the amount of the freight charges from Pittsburgh to the buyers' plants. Actual freight charges were paid by the seller.

In this way, it was contended, prices were increased by large fictitious freight rates which were not a proper part of the price. It was urged by the buyers that the normal and reasonable prices for the products should be measured by the cost of production at the producing plant, plus a reasonable profit, but without the addition of the fictitious freight rate from Pittsburgh to the buyers' plants.

Among others, the following statements were made:

> The application of the principle of price fixing at cost plus a reasonable profit, and of the law of supply and demand requires that the price of rolled steel in the Chicago district should be as low as and not greater than the price at any other point or in any other district in the United States. The fixing of any higher price for rolled steel produced in that district is arbitrary, artificial, unreasonable, and uneconomical, and gives to the respondent producers excessive and unreasonable profits.
>
> It is submitted that if basing points are economically sound, then, in the interest of the trade—of consumers and producers of the districts or sections to be served and affected—their selection should take into view their situation with respect to cost of production, supply, and proximity to existing and growing greater demand under normal and natural conditions . . . . if a basing point or basing points are to be considered as proper and recognized, Chicago best answers all the conditions and should be a basing point.

Furthermore, the Chicago fabricators who bought the products were hampered in competing with fabricators in Pittsburgh and elsewhere in the East, because the latter had to pay only the actual freight charges, if any, and thus had a marked advantage over the Chicago fabricators.

It was shown also that although costs of production at Birmingham, Alabama, because of the existence there of iron ore, coal, and limestone, the three basic elements in iron and steel production, were as low as the costs at Pittsburgh, yet the respondent companies and independent steel producers used the Pittsburgh basing system in selling to southern buyers.

In reply, the United States Steel Corporation denied that it was directly engaged in the production or sale of the products mentioned, but, admitting stock ownership of the subsidiary companies so engaged, it advanced arguments summarized in part below:

1. The Pittsburgh basing point system was used by steel manufacturers generally.

2. The prices so charged (*a*) were not arbitrary, nor the result of any agreement or understanding between producers, but (*b*) were fixed and controlled by supply and demand, and were the market prices prevailing in the territory at the time of service.

3. The practice had been started at the beginning of the steel industry in the United States, at a time when nearly all the iron and steel produced in the country was manufactured in the Pittsburgh district, and the mills there controlled the price as a matter of course.

4. Subsequently, many mills had been established elsewhere, chiefly in the Chicago district, but those mills had been unable to supply the requirements of the territory; as a result, buyers in the territory were obliged to depend on the Pittsburgh district for the larger share of their supplies.

5. Therefore, the practice of selling at prices charged by Pittsburgh manufacturers, plus freight from Pittsburgh, had been followed when the demand equaled or exceeded the supply.

6. Exceptions to the practice had been made, however, when demand lessened and the supply materially exceeded the demand, and particularly when production in districts outside the Pittsburgh district equaled or exceeded the requirements of such districts. At those times, little attention was paid to the Pittsburgh price, and the freight charged from Pittsburgh was either omitted or greatly reduced, following the law of supply and demand in the territory served.

7. The practice long had been a settled custom of the trade. In reliance upon it, the business of producers and consumers had been arranged, manufacturing and fabricating plants located, and vast capital investments made. To change the practice in any other way than by the ordinary processes of trade would create great confusion in the industry and should not be attempted.

8. The corporation argued that the Federal Trade Commission had no legal authority to fix prices, and that merely to order Chicago manu-

facturers to sell their products at a Chicago base price, without fixing the actual price, would merely change the name of the pricing transaction without in any way affecting the substance thereof.

9. If future changes in conditions should cause Chicago to become the leading iron and steel producing district, it would then become the basing point without formal order, and could not be prevented from doing so. Until such time, Chicago producers could not and should not be expected to sell their products in any district at less than the prevailing market prices in that district, or at prices lower than buyers had to pay to other producers for the major part of their requirements.

10. Under the circumstances, the quoting of higher prices in Chicago than in Pittsburgh did not unfairly lessen competition between producers, but rather benefited consumers by assuring them the competition of the manufacturers of the whole country, whereas abolishment of the system would, to a large extent, or wholly, destroy that competition.

11. Even if rolled steel costs were the same in each locality, the Chicago fabricators could not compete successfully with Pittsburgh fabricators in the latters' territory because high freight rates were charged on fabricated material as a result of its bulk. The fabricating business, therefore, was essentially local in nature.

Subsidiaries of the United States Steel Corporation, and independent producers, opposed the abolition of the Pittsburgh basing system for reasons much the same as those above, and claimed also that the system encouraged producers to risk the building of plants in advantageous locations, in reliance upon obtaining the prevailing market prices, whereas they would be deterred from such undertaking if they had not the possibility of obtaining a differential advantage to offset the risks of investment.

Among its findings in 1924, the commission said: "If free competition existed in the steel industry, the prices in the Chicago and Birmingham districts would fall to a level consonant with the lower cost of production at those points, which they have failed to do under the Pittsburgh Plus System."

The final decision of the Federal Trade Commission, with regard to the Pittsburgh basing point system, was to order the United States Steel Corporation and its subsidiaries to cease quoting its products according to that practice, to refrain from quoting prices upon any basing point other than the actual place of manufacture or of shipment, and to show clearly on all invoices the price of the products separately from the freight charges.

One of the five commissioners, however, dissented from this decision on the grounds that although the practice might be unsound from the point of view of economics, there was no existing law requiring adherence to sound economic principles, and that the corporation's use of a single basing point for pricing all its products was not illegal.

1. If a law were to be passed for the purpose of forcing adherence to sound principles of pricing, should it provide that each steel mill should price its products on its own costs of production plus actual freight charges, or should it permit the use of a single basing point for all steel products made within the United States?

2. Could such a law be effective unless it fixed the actual prices to be quoted, regardless of freight on individual shipments?

VIII

JOINT COSTS AND JOINT DEMAND

Black, 205-207, 216-218, 236-252; Bye, 324-331; Edie, 123-124, 133-134; Ely, 171-173; Fairchild, I, 124-126; Marshall, 381-393; Seager, 103-105; Seligman, 253-255; Taussig, I, 214-220; Turner, 188-189.

1. Crocker & Lang Veneer Company

DETERMINING PRICES ON JOINT-COST PRODUCTS

The management of the Crocker & Lang Veneer Company wished to increase its sales of its chief product, veneer. The company found only about 30% of the wood in a log satisfactory for veneer, and it made the remainder into lumber.

Veneer is a term applied to thin leaves or layers of wood. Generally these are made of valuable wood and laid over a core of inferior wood. The company's practice was to cut veneer from the logs either with thin saws or with knives, after the logs had been softened by being steamed for several hours.

The veneer sawed from each log was kept together throughout the process of drying, flattening, and shipping. The salesmen went out with samples from each log. The samples were selected so as to give the best idea of the color and figure of the lots. As all veneer from one log would react similarly to the same kind of varnish and polishing and would have a similar figure on it, the users of high-grade veneers always desired to obtain the product from one lot for use in one room or on one piece of furniture. Veneer was sold by surface area; the prices were set on the basis of the species and quality of logs from which the veneer was obtained and the beauty of the figures.

Three-fourths of the cost of the logs was charged to veneer and one-fourth to the lumber by-product. This distribution of charges allowed a good profit on the manufacture of veneer and at the same time a small profit on the manufacture of lumber. The company was considering decreasing the proportion of the

raw-material cost charged to veneer, in order to make practicable a reduction in the selling price of the finished product.

About 50% of the material used by the company's veneer plant was yellow birch and hard maple logs. Although logs suitable for lumber could be obtained by sawmills for from $15 to $20 a thousand feet, the cost of obtaining logs suitable for veneer was about $50 a thousand feet. This high cost resulted chiefly from the care which had to be exercised in the selection of logs for veneer. The Crocker & Lang Veneer Company sent men from the factory to travel through the sections of western Vermont where high-grade maple and birch were produced. These men selected suitable logs either in the woods or at the mills. Similar methods were employed in the selection of walnut and yellow poplar logs. The cost of mahogany and foreign woods, which the company obtained through brokers in London who were acquainted with the needs of veneer plants, occasionally was more than $200 a thousand feet.

The company had considered charging two-thirds of the raw-material cost to veneer and one-third to lumber. The company estimated that if it divided the cost in this ratio it would experience a slight loss on sales of lumber but would be able to reduce the selling price of veneer so as to undersell competitors and increase its sales of that product substantially. Raw material represented the chief expense; the costs of processing veneer and of manufacturing lumber from the residue of logs from which veneer had been cut were kept separately for each type of product.

It also had been suggested that the company charge the cost of the raw material to the veneer and the lumber on the basis of the actual quantities of the raw material used for each product. That is, since 70% of the wood purchased was made into lumber and 30% into veneer, lumber would bear 70% of the raw-material cost and veneer the remaining 30%. This method would result in a large increase in the profit on veneer and in a loss on lumber.

Another plan which had been discussed provided that the cost of the raw material be allocated to the products according to the amounts obtained from their sale. Thus, if out of $60 worth of logs the company made $150 worth of veneer and $30 worth

of lumber, the veneer would bear $50 of the expense and the lumber $10.

1. If the company did not alter its selling prices, would its prosperity have been influenced by any of the proposed changes in cost records?

2. Should the selling price of veneer have been changed?

3. If an increased demand for veneer had raised veneer prices substantially, would the company's sales of lumber have been benefited?

2. Natka Gas Company

Pricing and Marketing By-Product

As a public utility company supplying gas to 40,000 customers in part of a closely settled industrial community in an eastern state, the Natka Gas Company operated a combination coal gas and water gas plant. In 1924 the company produced approximately 1,500,000,000 cubic feet of gas in the proportion of 22% coal gas and 78% water gas.[1] The water gas plant used all the coke which came as a by-product from the coal gas retorts, so that the company had no coke for sale. Tar and ammonia, which were other by-products, were sold to wholesalers of those products. The company was in sound financial condition; its sales were increasing, and its relations with the public were good.

Late in 1924 the company erected a new vertical retort coal gas plant of a daily capacity sufficient to permit abandonment of the old coal gas equipment. The company planned to operate the new coal gas retorts continuously, and estimated that in 1925 75% of its gas would be produced at the coal gas plant. With this operating schedule, the coal gas retorts would produce between 5,000 and 6,000 tons more coke than could be used by the water gas sets. As the amount received from the sale of by-products was an important element in the production cost, it was essential to find the best market for this coke. The sales

[1] Production of gas from coal is a continuous process. Coal gas is made by heating bituminous coal about four hours in externally heated, air tight, fire clay retorts. Gas is driven off and a residue of coke is left, which is withdrawn and can be sold as fuel. Water gas is an intermittent process, requiring coke, oil, and steam. In the manufacture of coal gas the costs of coal and the receipts from the sale of the by-products are the chief factors; in producing water gas, oil is the determining cost factor, and coal or coke costs are only a small proportion of the total costs.

manager, therefore, was instructed to prepare a plan for pricing and marketing the coke.

Since the coke would be produced as a by-product from the use of coal in manufacturing coal gas, any net revenue obtained from its sale would go toward reducing the company's cost of coal, which was one of its major items of expense. Selling prices of gas were limited by a public utility commission, but the company was free to determine the price at which it would sell coke.

The territory served by the Natka Gas Company had a total population of 160,000 and comprised 6 adjoining cities and towns. The company estimated that the annual consumption of domestic fuel was 1½ tons per capita, or approximately 250,000 tons for the entire territory. Anthracite coal, then selling for $16.50 a ton delivered, was the most commonly used domestic fuel. Although local fuel dealers were offering coke for domestic heating at $11.50 a ton delivered, the demand was light. The domestic uses of coke never had been demonstrated in this territory, and the average householder did not know how to use it. The company believed that ton for ton coke had approximately the same heating value as anthracite. In bulk, a ton of coke was nearly double that of anthracite, and, in burning, it left 50% less ash. Coke was sold in competition with anthracite coal at prices from $2 to $6 a ton below the delivered price of that coal.

The coke market in the industrial section of the state in which the Natka Gas Company was located was dominated by the Dixby Coke Company, which operated a coke-oven plant with an annual production of 400,000 tons of coke; approximately half of this it marketed for domestic use in competition with the local gas companies. The Dixby Coke Company was not a public utility company. Coke was its main product. The gas obtained as a by-product by the Dixby Coke Company from its coke manufacturing operations was sold to a near-by gas company.

In the territory immediately adjacent to that served by the Natka Gas Company, there were three other gas companies selling coke. The annual tonnage sold by these companies, together with the population of their territories, was as shown in the table on the following page.

Several methods of marketing coke were considered by the sales manager of the Natka Gas Company. The company could contract with a fuel broker for the sale of its entire output of

Company	Estimated Population of Territory	Approximate Annual Sales of Coke	Current Price Spring of 1925
Anton Gas Co.....	200,000	40,000 tons	$11 per ton delivered
Belden Gas Co.....	60,000	26,000 tons	11 per ton delivered
Coster Gas Co.....	112,000	20,000 tons	12 per ton delivered

coke at a fixed price of $8.50 per ton f.o.b. cars at the company's gas works. This would relieve the company of all handling expenses and insure the disposal of its entire output; the broker would resell in other territories. The company could dispose of part or all its coke output to local coal dealers in its territory at a price of $9.25 a ton at the yard for such quantities as the dealers were able to sell. If this plan were adopted, however, the company might be unable to move its entire output of coke at that price. As the local coke market was not well developed, there would be little inducement to the coal dealers to push the sale of coke, and it might be necessary to reduce the price.

It was known that some gas companies, on the other hand, preferred to market their coke direct to the consumer. Selling coke in this manner necessitated educating the individual householder in the use of coke. The Natka Gas Company estimated that it could sell direct to consumers at a price of $11 for 60 bushels delivered. This was about $11.82 a ton. To the larger users, such as bakeries, restaurants, churches, factories, schools, and office buildings, the company would make a lower price of $11.15 a ton delivered. A trucking concern would deliver coke for $1.90 a ton. This, the company believed, was less than the cost of making its own deliveries. In addition to the cost of delivery the company would have advertising and publicity expenses of approximately $1,000 a year and salary expenses of about $2,000 a year for the services of a salesman-demonstrator to solicit orders and to instruct householders in the use of coke.

Another method of selling coke was to put it up in small bags containing about 15 pounds and sell to "peddlers" who distributed it among the local grocery stores for resale. The Natka Gas Company believed that it could sell coke in this manner at $8 a hundred bags, which was equivalent to a price of $10.64 a ton with delivery at the company's yard. The company anticipated,

however, that it could market only a small portion of its output of coke in this manner.

There were two important factors to consider in connection with any plan for selling coke direct to consumers. If coke should come to be used extensively for cooking or water heating, it would compete with the company's main product, gas. It would be desirable, therefore, to sell as small a proportion of coke as possible for ranges or water heaters and to place emphasis upon the use of coke in furnaces.

Another important factor was that the company's total output of coke was to be only 2% of the estimated fuel consumption of the territory. If the company's price of coke was unduly low, customers might order more than the company could supply. To refuse orders under those circumstances would result in ill will among customers.

The company decided to market its coke direct to users in its territory, quoting to domestic consumers a delivered price of $11 for 60 bushels and a price of $11.15 a ton to the larger commercial users. The company contracted with a trucking company for local deliveries at the price of $1.90 a ton, hired a salesman-demonstrator, appropriated $1,000 for advertising and publicity, and made arrangements with peddlers for the sale of as much bag coke as they would take. In case there appeared to be danger of overselling, the company intended to increase the price of coke.

1. Should the company have made the expenditures for advertising and for the demonstrator-salesman, or should it have merely quoted lower prices?
2. If the company's sales of gas continued to increase rapidly, what should have been its policy in regard to pricing its coke?

3. Ardmore Machinery Company

PRICE POLICIES FOR LONG-TERM CONTRACTS

An oil-electric locomotive was developed through the combined efforts of the Ardmore Machinery Company, the Tiffin Locomotive Company, and the Balch Electric Company, and its practicability successfully demonstrated. The executives of the three companies believed that because of its economy of operation the

new locomotive eventually might be substituted for almost all the existent types of power used for rail transportation. As yet, no agreements had been entered into by the several companies in regard to the prices at which parts would be supplied for assembly into the locomotives.

The Ardmore Machinery Company manufactured oil-burning engines for a variety of uses, and a line of machinery, which comprised air compressors, rock drills, pneumatic tools, coal cutters and other mining machinery, and channeling and quarrying devices. Many of the company's customers were leading companies in the mining, quarrying, and construction fields.

The Tiffin Locomotive Company specialized in the manufacture of steam locomotives for all types of transportation service. In addition, it manufactured for other companies, one of which was the Balch Electric Company, a limited number of frames and wheels to be used in the assembling of locomotives and self-propelled cars of various types. Its sales averaged one-third more than those of the Ardmore Machinery Company, but were less uniform. In any year, sales might be double or only one-half of the volume of the preceding year's sales, while those of the Ardmore Machinery Company did not vary from the average by more than one-fifth. The Tiffin Locomotive Company was one of three large companies that dominated the locomotive manufacturing industry of the United States.

The Balch Electric Company was an important manufacturer of electrical apparatus and equipment. Its sales were from five to seven times as large as those of the Ardmore Machinery Company, and were made throughout the world. This company was the strongest financially of the three concerned. It manufactured electric generators, motors, and all types of miscellaneous electrical equipment. Since 1909 it had had a wide experience in developing and manufacturing self-propelled rail vehicles and in the selection of the proper auxiliary equipment which would produce the most effective operating units. More than 100 types of such vehicles had been built and were still in use by various railroad companies.

The increasing costs of operation, especially fuel costs, and the greater density of traffic on the railroads of the United States focused attention on methods of effecting economies in operation. For approximately 10 years, companies interested in the develop-

ment of transportation had been experimenting with the application of the internal combustion engine to locomotion. Fuel oil engines with auxiliary electrical equipment had been successfully used in marine transportation but, before 1920, no company had been successful in designing an internal combustion engine which was light enough in weight and, at the same time, had sufficient power to haul a train.

In 1920 the Balch Electric Company was convinced that it was possible to design such an engine to be used in locomotives for most types of railway service. The principle was to combine the features of an engine burning low-grade fuel oil, which would be the prime source of power, and a generator which changed this power into electricity to supply the railway motors, geared to the axles. The company requested about 30 leading manufacturers of oil-burning engines to experiment, individually and at their own expense, upon the development of an engine of the desired construction. The Ardmore Machinery Company, aided by its wide experience in the construction of internal combustion engines, was able to perfect a satisfactory design in about one year. No competing company had succeeded in this effort.

Since the Tiffin Locomotive Company previously had manufactured locomotive bodies for the Balch Electric Company, it was asked to cooperate with the other two companies in the construction of a test locomotive. The Tiffin Locomotive Company was to build the frame and wheels, and the Balch Electric Company the generator and driving motors to be used with the Ardmore engine. Each company was to bear its own expenses.

The Balch Electric Company designed a special generator which could be connected directly to the engine. The unit was assembled by the Ardmore Machinery Company, and was used in its shops until perfected. After that, it was loaned to various railroads to be used in competition with steam locomotives. It was thoroughly tested in all kinds of service.

During the tests, the locomotive was found to have several advantages over the steam locomotive. The control was simpler. The thermal efficiency of the internal combustion engine was approximately 30% as compared with about 5% for a steam engine. The electric transmission protected the engine from many of the usual strains and shocks and also allowed the engine to be operated at the most economical speed regardless of the

acceleration or load under which the locomotive was running. No shifting of gears was necessary.

The executives of all three companies believed that the locomotive could be built with sufficient power and speed for any type of service; therefore it was considered a potential competitor of all existing steam and electric methods of rail propulsion. The selling price of the locomotive at the beginning would have to be approximately twice that of a steam locomotive of corresponding power. In the road and switching tests, extending over a three months' period, however, the oil-electric locomotive did as much work as two steam locomotives of like power. The new locomotive needed less auxiliary operating equipment and a smaller amount of shop facilities for maintenance; and, because of its lower fuel cost, its total operating cost per ton mile, including interest and depreciation on the greater investment, was one-half of that of steam locomotives. The fuel oil was purchased, in 1924, for an average of 5 cents a gallon.

The other form of power with which the new locomotive had to compete was that supplied from a central electric power station. It was estimated that the oil-electric locomotive could be operated at 25% less cost per ton mile than engines could be operated electrically from a central station.

At least five years would be required to establish the use of the locomotive in one-tenth of the total rail transportation service in the Western Hemisphere. The companies planned to concentrate upon sales in North and South America.

One of the other leading locomotive companies was actively engaged in developing a similar product by assembling electrical and oil engine equipment purchased from other manufacturers, in a body of its own construction. Another leading oil engine company and an electrical company each were trying to assemble a similar locomotive. Thus, active competition was expected in establishing the new locomotive in the market.

To introduce the locomotive into the market as rapidly as possible and yet on a permanent basis, it was possible to organize a separate corporation to assemble and market the locomotive, or any one of the three companies might take that responsibility, purchasing the parts which it did not manufacture from the other two companies. The Tiffin Locomotive Company, although it had had no experience with electric or gas forms of power, was

already producing and selling a steam locomotive in the transportation market and had developed a specialized sales organization which, perhaps, should be utilized in marketing the new locomotive. The parts contributed by that company to the new product were the least highly technical and specialized of the three, and therefore would be manufactured more nearly under competitive conditions than would the parts supplied by either of the other companies. The Tiffin Locomotive Company already was producing, at low costs and on a large scale, locomotive parts nearly similar to those required for the oil-electric type. Expenses, therefore, could be figured accurately.

Costs of producing each of the three sets of component parts of the new locomotives were approximately equal, and thus far, each company had contributed approximately the same amount in the development of the locomotive. Costs of producing the oil engine included outlays for experimental designs, new dies and tools, patent fees, and special engineering services. The engine differed in many respects from any other of the Ardmore Machinery Company's products. The production costs of the electrical equipment supplied by the Balch Electric Company included fewer special expenses and were comparable with costs of making somewhat similar apparatus.

There was for each company, regardless of the question as to which company should assemble and sell the locomotives, the problem of deciding upon satisfactory terms for an agreement to supply the necessary parts.

1. Assume that a separate corporation was formed to market the complete locomotives, and that it would purchase the necessary parts from the three manufacturing companies, agreeing to divide the annual net profits in proportion to the total value, at purchase price, of the parts furnished by each company during the year. Then, with regard to its own long-run benefits, should each company have agreed with the marketing corporation to furnish parts over a period of years at (*a*) a price fixed in advance on the basis of initial production costs, or (*b*) prices subject to change in accordance with changes in market prices of these supplies?

2. Trace the effects of an increasing demand for electrical locomotives of the kind discussed in this case upon supplies of raw materials and parts.

IX

MONOPOLY PRICES

Bye, 333-337; Clay, 123-127, 137-151; Edie, 138-140, 190; Ely, 180-200; Fairchild, I, 345-354; Gide, 134-138; Marshall, 477-495; Rufener, 118-136, 261-283; Seager, 219-225; Seligman, 231-240, 258-261; Taussig, I, 195-213, II, 113-121; Turner, 582-601.

1. The Encyclopaedia Britannica

INTRODUCTORY OFFER OF COPYRIGHTED BOOKS

In circular letters dated December, 1926, advertising *The Encyclopaedia Britannica,* New Thirteenth Edition, 1926, the following statements were made by the publisher:

> 1. . . . . *This newest Britannica NOW—right at the very beginning of its sale—is being published at a sweeping reduction in price.*
>
> This low price, an amazing bargain from every viewpoint, is made available to YOU through a startling new policy—a *Britannica* policy which sweeps aside all publishing precedents.
>
> It was decided to bring out this new 13th Edition not only in the de luxe Cambridge Issue (the higher-priced format in which former editions have been first introduced), but also in the world-famous NEW FORM at a *Saving of Nearly One-Half.*
>
> Thus YOU are enabled to own this newest Britannica *while it is new.* No need to wait for months, perhaps years, for a lower-priced edition, because this is *the lowest price at which a new edition of the Britannica has ever been offered.*
>
> 2. That this NEW FORM Britannica is complete and unabridged. It is printed from the same large-type plates, and on the same presses, as the de luxe Cambridge Issue. The saving is made possible by the use of a special Britannica Opacity Paper, by binding the 32 volumes as 16 (two volumes in one cover), and by saving the cost of resetting 33,000 pages of type.
>
> This is the first time in the history of the Encyclopaedia Britannica that a *new, complete, large-type edition has ever been sold at a price within easy reach of every home.*

Since *you* have indicated your interest in the Britannica, I want you to have more than a fair opportunity to take advantage of the present remarkable offer, but you will readily understand that I cannot guarantee to keep any sets to supply subscribers who fail to see the importance of quick action.

Announcement of this opportunity to buy the new Thirteenth Edition in the NEW FORM at 40% saving has already been made in London, Paris, and other cities abroad, as well as in the United States. The result is that orders are now pouring in from all over the globe.

Only 15,000 sets have been printed in the NEW FORM. Scarcely more than half of these sets will be available for America. Lots of people are certain to be disappointed.

My best advice, therefore, is that *you* should let us know your decision at the earliest possible moment. You will thus make sure of *your* set in the NEW FORM at a saving of nearly one-half; and you will have the full benefit of *immediate use* of this great storehouse of human knowledge—the greatest work of its kind ever published.

Since the edition was copyrighted by the publisher, the books could be obtained from no other source. The owner of a copyright, according to the law of the United States, has the sole right to print the materials so protected, or to permit others to print them. Copies of such materials cannot be imported without the consent of the copyright owner.

Purchasers of the edition were offered a free bookcase. Payments could be made, at the purchaser's option, in full at once, or in monthly amounts at stipulated rates. For payment in full, prices were:

Cambridge Issue, Cloth Cover	$187.00
New Form, Cloth Cover	99.20

The buyer was to pay freight charges.

Other advertisements contained further information, as summarized here: As a result of the above offer, sales of the New Form *Britannica* were exceeding expectations and were 10 to 1 greater than the higher-priced Cambridge Issue. It would take many months to obtain another printing.

The publisher's reasons for making this offer were stated thus:

Hitherto, it has always been the practice in book publishing to bring out new important works only in a single high-priced issue. The initial editorial costs, and the expense of type setting and plate making are enormous. It has never before been considered profit-

able, or practicable, to bring out a less expensive issue of such a work as the Britannica to compete with a higher-priced issue.

Even a new novel, for example, is first published to sell at $2 or $2.50. And you will wait a year or longer before you can buy it in any cheaper form.

But the Britannica is primarily an educational work—acknowledged to be the most comprehensive source of knowledge in the English-speaking world. Furthermore, this new 13th Edition is by far the most important contribution that has ever been made to the needs of education and enlightenment in these momentous days.

Therefore, the publishers have swept aside conservative publishing policies and decided, even at sacrifice of immediate profit, to give it the widest possible distribution.

An order was placed for 15,000 sets of the Britannica in the NEW FORM. These are now being offered here and throughout the world. So long as any sets are left, the new 13th Edition Britannica, *just off the presses,* will be available to those who otherwise might have to put off owning the Britannica for many months —perhaps for years.

1. What was the probable effect of this sales offer upon the publishers' profits?

2. Would the offer "spoil" the market for the Cambridge edition?

3. Were the owners of the latter discriminated against?

2. Clayton China Company

Prices, competition, and scale of output

In 1922 the Clayton China Company was producing 90% of the china manufactured in the United States to be used for cooking purposes in hotels, restaurants, dining cars, and private homes. It made no chinaware for table use or for any other purpose than cooking. Another company, whose production costs were materially higher than those of the Clayton China Company, produced the remaining 10%. In addition, European manufacturers occasionally shipped high-grade cooking china to the United States. The Clayton China Company's china had unusual heat and destruction resisting qualities.

From 1905 to 1915 the prices of the company's products seldom changed. From 1915 to 1920 wages increased 100%. The cost of supplies also rose at frequent intervals. Prices of the company's pottery in 1920 were approximately 100% higher than

they had been in 1915. In 1921, when wages and the cost of supplies declined somewhat, the company reduced the prices on its products 17%. After another decrease in wages of 5% in October, 1922, wages were approximately 60% above those which had been in effect in 1915. Expenditures for labor and supplies constituted 62% of the total production costs. Although the company could lower its prices further and still could receive a profit, the executives were uncertain whether or not they should make a further reduction.

The company's production costs were unusually low, as contrasted with costs of companies making table china. Most china companies had to bake their products twice; the Clayton China Company, however, had perfected its processes so that it could manufacture china of high quality with only one baking. Through long experience in the production of cooking china, the company had obtained a special knowledge of the proportions in which the different varieties of clay should be mixed. The clay was mixed with water, molded, dipped in color, dipped in a glazing compound, and then baked for from 48 to 72 hours. The company had no patents on its process.[1]

The company's one competitor produced table china as well as cooking china. It used the manufacturing processes customary among china manufacturers. The clay first was molded, baked, dipped into color and into a glazing compound, and finally was baked a second time. Several companies had attempted to bake their china products only once. They were handicapped by their lack of knowledge and experience in the process, however, and had discontinued it after a short period.

Enamel, aluminum, and earthenware cooking dishes competed to some extent with the company's products. In 1921, for instance, when the Clayton China Company had reduced the price of its teapots from $7.25 a dozen to $6 a dozen, the price of enamel teapots was $3.50, and of earthenware teapots, $2.50. The company believed, however, that most of its customers preferred china cooking dishes to enamel or aluminum. Earthenware dishes were said to be easily breakable, were porous, and were likely to absorb the flavor of foods cooked in them.

During 1921 and the early part of 1922, European potteries

[1] Ownership of a patent would have given the company the exclusive right to use the process covered by the patent throughout the life of the patent, 17 years.

had exported only a comparatively small quantity of cooking china to the United States, because of high operating costs and the import tariff of 55% on cooking china. European manufacturers had many markets besides the United States and concentrated their efforts on making table rather than cooking china.

The Clayton China Company never had attempted to produce table china. The process of manufacturing such china was somewhat different from that of producing cooking china. There was already active competition, moreover, in the sale of table china.

Liberal wages were paid the company's employees. The company maintained an open shop, but the unions were so strong in that section that there were few nonunion workmen. An adequate supply of labor was available, however, and if increased output should be required, new employees could learn the necessary operations in a few months.

Wholesale distributors purchased the company's output for resale to users. The stabilized rate of output that had been reached by 1922 gave the Clayton China Company a net annual profit of approximately 15% of sales.

In 1921 and the early part of 1922, sales had equaled production, and the executives did not expect demand to decrease. They were of the opinion, nevertheless, that the company must retain the goodwill of its customers.

If high prices were maintained, new competitors might enter the market. It was quite possible that eventually competitors who were strong enough financially to operate with no profits or at a loss for a short term of years would be successful in developing manufacturing processes like those of the Clayton China Company. The executives of the Clayton China Company were of the opinion that the failures of competing potteries were the result of mismanagement rather than of inability to duplicate the production methods of the Clayton China Company. At that time, however, no new company was making a serious attempt to secure the Clayton China Company's sales.[1]

[1] In deciding whether the United States Steel Corporation was a monopoly, the District Court, District of New Jersey, had said: "Taking up these [independent] companies one by one, it will be seen that in location, facilities, capital, and basic supplies they show such strong past, present, and prospective competition as affords just ground for concluding that the steel and iron business of this country is not being, and indeed cannot be, monopolized by the Steel Corporation. For the real test of monopoly is not the size of that which is acquired, but the trade power of that which is not acquired." 223 *Federal Reporter*, 69.

If the Clayton China Company quoted prices much more than 100% above the cost of enamel, aluminum, or earthenware dishes, there was a possibility that customers might substitute these wares for the company's products. Without incurring actual losses, it was impossible for the Clayton China Company to reduce its prices far enough to compete directly with the prices of enamel, aluminum, or earthenware pieces. It was estimated that a small price reduction would not increase sales to individual consumers who used enamel or earthenware products. It was unlikely, moreover, that by means of price reductions the company could increase the quantity of its output sold to hotels, restaurants, or dining cars, since they already were using high-grade china and their demands showed little variation. A larger scale of operations would not result in any important changes in production costs per unit made.

The executives believed that because the demand for the company's products was extremely inelastic, lower prices would not increase sales materially. By a price reduction, however, the company no doubt would secure the orders going to its competitor. The Clayton China Company decided not to lower its prices at that time.

1. If a large demand arose for its products from new sources at existing prices, should the company decide to change the quantity of output?
2. Has the Clayton China Company a monopoly?

3. Radio Instrument Company

PRICE POLICY FOR PATENTED INSTRUMENT

The Radio Instrument Company was organized in 1925 to manufacture and market a device known as a "weightmeter." The weightmeter was an electrical instrument so designed as to indicate the variations in weight or moisture content of moving sheets of materials during the process of manufacture. Some materials that could be so measured were sheet rubber, tire fabric coated with rubber, shoe lining, paper, celluloid, roofing, and sheet metals. Weighing of sheet material in the process of manufacture ordinarily was done by mechanical methods, but such

mechanical measurements frequently were crude and inexact.

As research and experimentation with the weightmeter progressed, it became evident that the device could effect a considerable saving in manufacture and could help in standardizing the quality of products in the rubber, paper, textile, and other industries. In the company's opinion, the value of the weightmeter to purchasers would vary widely, according to the uses to which it would be put. This fact complicated the problem of pricing and marketing the product.

In its operation, the weightmeter depended upon the working principles of a radio receiving set. The inventor had noted when operating a radio set that a sheet of paper or other material placed between the condenser plates caused a change in the tuning of the set, and furthermore, that the variation in the tuning increased as the quantity of the material inserted was increased. Realizing that this phenomenon might be utilized in industry as a means of checking weights of materials, he developed a machine whereby a sheet of moving material whose weight was to be checked could be passed between the condenser plates of a radio hook-up. The machine did not record the weight of the material in pounds or other units as it passed between the plates of the condenser but showed variations from a standard for which the machine was set at the time. In other words, the machine worked upon the principle of matching standard samples.

A needle, called the indicator, which could move from left to right over a calibrated scale, was connected to an electrical circuit containing the condenser plates between which the moving sheet of material passed. The indicator corresponded to the loud speaker in a radio receiving set. The standard sample placed between the condenser plates determined the natural radio frequency of the circuit, and thus its degree of response to an impressed radio frequency. A dial connected with a compensating condenser in the same circuit could be tuned so that the indicator would point to zero on the calibrated scale. When the indicator pointed to zero, the reading of the dial furnished a permanent record for the setting of the machine to the control point for material in process which was to match the sample. A variation in weight of the material passing between the condenser plates thereafter would cause the indicator to vary to the right or left from the zero mark on the calibrated scale. The amount of varia-

tion as shown on the scale would permit determination of the variation in weight from the standard sample.

To describe the operation of the machine, its use in a rubber factory is given: The weightmeter was attached to a rubber calender so that the sheet of rubber stock passing through the calender moved between the condenser plates of the weightmeter, which was set according to the sample of material to be matched.[1] The operator could adjust the calender rolls when the indicator showed that the weight of the material was running either above or below the standard. The indicator responded to very slight variations in the weight of the substances. For example, by the use of the weightmeter, inner tube stock for automobile tires could be kept at less than 1% of variation from the desired weight, and tire fabric could be kept at about 1%.

The device first had been experimented with in a paper mill as a means of checking the weight of a moving sheet of paper in the process of manufacture. By the end of 1926 it had been found that the device could be used, not only in controlling the weight of the paper, but also in controlling the moisture content of the paper as it came from the calender. A paper machine, therefore, could use two weightmeters: one to detect changes in weight, and one to detect changes in moisture content. It was important that the moisture content of paper be kept as nearly constant as possible. This was true, in the first place, because paper manufacturing companies sold paper by weight, and, in the second place, because variation from the desired moisture content, especially in newsprint, caused difficulty, waste, and annoyance when the paper was run through printing presses. Newsprint that was too dry, for instance, had a tendency to become charged with static electricity, which prevented smooth running through printing presses. A paper mill which could furnish newsprint with a standard moisture content had a valuable selling point. The existing methods of controlling moisture content of paper were crude and subject to error. The weightmeter, however, indicated slight variations in the moisture content. An

[1] A typical rubber calender consisted of a large frame which supported three hollow, steam-heated rollers placed in a vertical plane one above the other. Between the rollers a strip of fabric was run and into this fabric as it passed between the rollers, rubber compound was pressed. The rollers could be adjusted so as to increase or decrease the distance between them, and this distance determined the thickness of the finished product.

operator, by changing the steam in the drying rolls in accordance with the readings of the weightmeter, could hold the moisture content of the paper to a desired standard.

As the experimentation progressed, it became clear that eventually there would be developed automatic control devices to be used in connection with the weightmeter to control the weight and quality of goods in process. When the weightmeter was used with only an indicator, it was necessary for an operator to watch the indicator for variations in weight or in chemical composition of material in process and then to adjust the processing machines to correct the errors. It was anticipated that attachments would be perfected by which the proper adjustments could be made automatically, without the assistance of operators. Considerable work already had been carried on in the development of an automatic control attachment for calenders used in rubber manufacture; moreover, automatic devices had been developed and tested at an affiliated mill for use on paper machines to control weight of paper run. It was expected that an automatic control attachment for the steam drying apparatus on a paper machine also would be developed. By the end of 1926, the company had developed a recorder which, when attached to the weightmeter, plotted a graph of the variations in weight of material.

The Radio Instrument Company planned to choose a representative firm in each of eight industries in which the weightmeter might be used to cooperate in experimenting with the instrument under actual operating conditions. Thereby the company hoped to determine the savings which the instrument would effect in the manufacture of different products in each industry. By the beginning of 1927, such experiments had been conducted in the plants of a rubber and a paper company.

The research engineers of the Radio Instrument Company stated that the probable savings from use of the weightmeters were both tangible and intangible. The savings which could be measured partially by experiments and on the basis of cost accounting records were: first, those that would result from reduction in amount of raw material used, since with accurate measuring overweight of articles would be eliminated; and second, those that would result from increased production per machine hour and per man hour. Intangible savings would result from increased customer confidence and goodwill and from ex-

pected changes in process which would allow reductions in the number of operatives.

Through the cooperation of the rubber company, the Radio Instrument Company experimented with its machine in the various processes of manufacturing rubber tires and other rubber products, such as boots and shoes. As a result of this experimentation the research engineers of the Radio Instrument Company estimated that the use of the weightmeter in tire manufacture would result in savings varying from $100,000 a year for an unusually large calender to $10,000 a year for each of certain small calenders often used in rubber factories. On a relatively few calenders in rubber factories the engineers estimated that a saving of $30,000 a year per calender might be brought about. The use of the weightmeter on machines for manufacturing rubber products other than tires brought savings which were substantial, according to the Radio Instrument Company's research men, though not often so large as those for tire fabrication. The research engineers reported that the rubber company which was cooperating in the experiments probably could make effective use of 20 weightmeters. The engineers estimated further that if the 10 largest rubber manufacturers in the United States made full use of the weightmeter in their factories, 1,000 weightmeters would be required. According to the engineers, savings amounting to millions of dollars would result from such use of the machines.

The manufacture of inner tubes for automobile tires afforded an example of the savings expected to result from the use of the weightmeter. Inner tubes were sold to dealers as being of certain weights, but actually the tubes ordinarily varied above or below those weights. A tire manufacturer had to keep the variations below the standard weights within certain limits in order to satisfy distributors and consumers. It was generally conceded by manufacturers of inner tubes that, inasmuch as there had been no effective means of measuring variations during the manufacturing process, there had been a tendency to make the tubes overweight in order to avoid any possibility of their being below the allowable minimum of variation from standard. If the weightmeter were used, however, variations in weight could be kept within very narrow limits. Thus the manufacturers could save in raw material.

In cooperation with the affiliated paper company, the Radio Instrument Company had experimented for nearly a year with the weightmeter and had succeeded in developing a device for automatically controlling weight of paper in process on a sulphite bond and sulphite "linen" paper making machine. The estimated saving through control of the weight of paper was less than the saving from control of weight in the rubber industry, both because the raw materials entering into paper were less valuable than rubber and because the manual control already developed in paper manufacture was better than that in rubber manufacture. The Radio Instrument Company's engineers estimated that the saving from the use on a sulphite bond and linen paper machine of the weightmeter, in connection with the automatic devices, would be about $5,000 a year. The paper mill superintendent, however, maintained that perhaps the same results in the control of the weight of paper could be obtained by employing an operative whose sole duty was to control the weight of the paper as it was run through the machine. Such an operative, he stated, would be paid not more than $1,500 a year. The engineers of the Radio Instrument Company, however, who were well versed in the problems of paper manufacture, asserted that the precise control of weight that they had demonstrated could not be attained except through the use of a precision instrument such as the weightmeter, and pointed out the fact that although such control had long been desired, it had never been achieved theretofore.

In the paper industry, the savings for each machine from control of the weight of the paper would vary substantially with the quality and the quantity of the paper passing through the machine. The engineers of the Radio Instrument Company, however, roughly estimated that the average savings would be approximately $5,000 a year for each machine equipped with a weightmeter and with automatic controls attached thereto.

Control of moisture content was as important in the paper industry as control of weight. One large manufacturer of newsprint had experimented unsuccessfully for several years trying to develop a hygrometer which could be used to control the moisture content of paper. Engineers and executives of this company estimated that ability to hold the moisture content constant would be worth $100,000 a year for each large modern

newsprint machine of the company. One manufacturer of newsprint had six newsprint machines; most other paper companies had a smaller number. Newsprint machines were of enormous capacity. Savings to be realized through control of moisture content for other types of paper were not so large reckoned by machines. Nevertheless, the average potential saving for each such machine was estimated to amount to thousands of dollars a year.

The Radio Instrument Company recognized that the estimates of its research engineers might be subject to skepticism and disagreement on the part of the engineers and executives of the manufacturing companies which were potential users of its machine.

The Radio Instrument Company was a subsidiary of a paper manufacturing company. The executives of the subsidiary company had had no experience in the manufacture and marketing of precision instruments, and the company did not have factory facilities for the manufacture of such instruments. The first instruments with which the company experimented under operating conditions were assembled for the company by a manufacturer of electrical apparatus. Certain of the castings were made according to drawings and specifications provided by the Radio Instrument Company, but the rest of the device consisted mostly of standard radio and electrical parts. Officials of the Radio Instrument Company estimated that the instruments could be manufactured by the present maker on order in lots of 100 or more at a price of from $600 to $700 apiece, billed to the Radio Instrument Company. While some savings in manufacturing costs might be expected from increasing the volume of output of the machines, such savings would not be large. Moreover, the maximum number of machines which might be sold would be relatively small, so that the saving by quantity production was not a consideration in the manufacture and marketing of the device.

The basic principles of the invention were fully covered by patents not yet litigated, but apparently remarkably strong, and the company employed an able patent attorney and an engineer who was an expert in patent procedure to keep the new developments covered by patent applications.

The company's instrument had no direct competition. Other

mechanical weighing devices had been on the market for several years and were available for similar service in particularly suitable fields, but they were said to be complicated and delicate, lacking in precision even when new, and likely to go out of adjustment. These competing machines were sold outright for $1,500 each, but only a few had been sold and some of these stood idle.

Executives of the Radio Instrument Company at first had planned to sell the weightmeters outright to users. They had discarded this plan, however, their reasons being that the number of the instruments needed in industry was limited; that new and important applications of the device constantly were appearing; that a price commensurate with the value of the instrument to an industrial firm might be so high that the firm would not purchase; and that the instrument did not have the same value to different industries nor for different products in the same industry.

The executives also had contemplated leasing the instrument at a fixed rental. They had rejected this plan, however, because if a uniform rental per machine were to be asked, that rental would have to be based on the instrument's value to manufacturers finding it least useful rather than on its value to those firms where it effected the largest savings.

It also had been suggested that the company should sell the machines on a royalty basis with a uniform initial charge sufficient to cover the cost of manufacturing and installing the instruments and a royalty charge to be paid to the Radio Instrument Company by the user for each unit of product manufactured, the royalty charge to vary for different products in accordance with the value of the machine in their manufacture. In talking with officials of rubber companies, however, executives of the Radio Instrument Company learned that some, at least, of the rubber companies would object strongly to a royalty basis because they did not wish to release production figures. Manufacturing processes differed between companies, furthermore, so that it was difficult to apply a uniform royalty to similar products of different companies.

The Radio Instrument Company also had considered placing the instruments with companies at a uniform initial charge plus an annual charge equal to one-tenth the savings resulting from the use of the machines. The company, however, had encountered difficult cost accounting problems in an experimental at-

tempt which it had made to determine definitely the savings resulting from the use of the instruments in the plant of the cooperating rubber company. It also would be difficult to arrive at agreements with users as to the savings effected. Processes in manufacturing constantly were changing, and the use of the instrument might cause further cost-reducing changes, the savings from which could not be attributed entirely to the weightmeter.

The president of one rubber manufacturing company whom the executives of the Radio Instrument Company approached was of the opinion that the Radio Instrument Company should not base the price of its machine upon probable savings to users. This executive held that the weightmeter was merely a precision instrument to indicate variation from standard and that any saving that was effected would depend upon the use made of the information supplied by the weightmeter in controlling operating processes. He stated that if the Radio Instrument Company developed automatic devices which of themselves would control manufacturing processes, then the company could expect to share in the saving effected.

In January, 1927, it appeared advisable to executives of the Radio Instrument Company to place in operation as many as possible of the machines with merely the indicator instrument and without the recording graph or automatic control devices. The executives were confident that a company had only to use the indicating machine to realize its value. They proposed to make an installation charge large enough to cover the costs of manufacture and installation and in addition to charge a fixed annual rental. The fixed annual rental probably would not be the same for different industries, but would vary roughly in accordance with the value of the weightmeter in the industries. Whether there should be variation in the rental charge between installations in the same industry was undecided. It was proposed to put into the contract with lessees a provision that no recording devices or automatic controls were to be used in connection with the weightmeter except with the cooperation and express approval of the Radio Instrument Company. The company expected to make additional charges for the use of recording and control devices in connection with the precision instrument. Such charges, it was anticipated, would be varied in

accordance with the value of the devices to users, so that the Radio Instrument Company would benefit in proportion to the economies effected. The inventor of the instrument already had worked out an automatically controllable rubber calender feed, and one had been built, but not yet tried out, as of January 1, 1927.

The Radio Instrument Company planned to have an adequate repair service department and to provide expert repair service to users at cost.

1. What policy should the Radio Instrument Company have adopted in pricing its devices?

2. In what ways, if at all, would this pricing problem have been different:

a) If the device had not been patented?

b) If the product had been a consumers' good?

3. As regards benefits to consumers, is the practice of granting patents advantageous?

X

USES AND CHARACTERISTICS OF MONEY

Black, 654-658, 666-668; Bye, 190-207; Clay, 153-158; Edie, 493-506; Ely, 234-239; Fairchild, I, 371-383; Gide, 283-300; Rufener, 55-64, 483-488; Seager, 322-328; Seligman, 449-453; Taussig, I, 223-231; Turner, 195-219.

1. Money[1]

ARTICLES IN USE AS MONEY

People in a primitive state of civilization must have some elementary kind of money, says Farran Zerbe, in "The Story of Money," issued by the Chase National Bank. For example, today explorers going to the far North find that fishhooks and gum drops constitute the best money to take to the Esquimo. In the interior of Thibet and Mongolia the traveler takes brick tea made out of tea dust, and scrap. In north Russia and Arabia rock salt is a good kind of money to have along. In some parts of north China cheese was used as a medium of exchange up to 100 years ago. Leather was used for money in old Mexico, and, in fact, in Germany since the war.

The present-day money of the natives in the Belgian Congo is ordinary print-cloth—calico—in unit length suitable for a girdle. This common use of calico for money produced a problem in finance for the mine operators in the Congo during and since the World War. Previous to the war, calico cost 10 cents a yard delivered; with war and postwar conditions it cost 75 cents a yard. Wages could not be reduced, for the value of a piece of calico had come to be measured in the native mind by its use as a girdle, regardless of its cost.

In Siam gold and silver money is used in a curious shape, for the Siamese have always been great gamblers. There is a popular gambling game in which all the players squat in a large circle, and in order to get the money from one player to another during the game the early money was made in the shape of a ball. The flat coins of Siam today are often bent or dished, so that they can be slid across the floor with ease.

The smallest coin comes from southern India. It was minted about the year 1800 and has the weight of about one grain of gold, or a United States value of about 4 cents. The largest coin known for common use was a square kind of money, used in Sweden for about 150 years down

[1] From the *Boston Traveler,* November 3, 1926. Reprinted here by permission.

to 1780. It is a flat piece of copper weighing 6½ pounds, being 10 inches square, and was the value of 4 Swedish dalers. Larger coins, but not common as pocket pieces, were also issued by Sweden. They were of the value of 8 and 10 dalers, about 12 by 24 inches in size, and weighed between 30 and 40 pounds. If we had more such money at this time it would be a great deterrent to crime. Copper crosses about 8 inches square and weighing 2 pounds are the only legal tender of the Baluba tribe in Africa in the purchase of a wife.

Which, if any, of the articles described above could properly be defined as money?

2. United States

coinage system, 1792-1860

The Spanish silver coin of 8 *reals,* usually called the "piece of eight" and later the "Spanish milled dollar," was the metallic basis of the American colonial monetary systems, which persisted after the Revolutionary War. Accounts were generally kept in pounds, shillings, and pence, however. The value of a piece of eight, when measured in shillings, varied as between the different states. In sterling (British) money a piece of eight was valued at 4 shillings and 6 pence; whereas in North Carolina and New York it was 8 shillings; in Virginia and New England, 6 shillings; in Pennsylvania, Maryland, Delaware, and New Jersey, 7 shillings and 6 pence; and in Georgia and South Carolina 4 shillings and 8 pence. In New York a shilling equaled an eighth of a dollar (one real) and in Massachusetts one sixth of a dollar.

To pay a debt of 180 pounds due in New York currency required 450 Spanish dollars; if due in Massachusetts currency, 600 Spanish dollars. If the debt had been payable in pounds sterling to a British merchant, 840 Spanish dollars would have been required to liquidate the debt. The result of this condition was a confusion which easily led to proposals for a uniform coinage system in the new nation. Among these proposals was one by Thomas Jefferson, who advised a unit of the value of the Spanish dollar with a decimal system, a proposal which was further urged by Alexander Hamilton in his report of 1791 on the establishment of a mint. Hamilton proposed the coinage of both gold and silver: $10 and $1 gold pieces; $1 and 10 cent silver pieces; and 1 cent and half cent copper pieces.

The Mint Act of April 2, 1792, substantially followed the sug-

gestions of Hamilton, though not providing for the coinage of a gold dollar. Its provisions read as follows:

The money of account of the United States shall be expressed in dollars or units, dimes or tenths, cents or hundredths.

There shall be from time to time struck and coined at the said mint coins of gold, silver, and copper, of the following denominations, values, and description, viz.: eagles—each to be of the value of ten dollars or units, and to contain two hundred and forty-seven grains and four-eighths of a grain of pure, or two hundred and seventy grains of standard, gold . . . . ; half-eagles . . . . ; quarter-eagles . . . . ; dollars or units—each to be of the value of a Spanish milled dollar as the same is now current, and to contain three hundred and seventy-one grains and four-sixteenths parts of a grain of pure, or four hundred and sixteen grains of standard, silver.

EXHIBIT 1

MARKET RATIO OF SILVER TO GOLD, UNITED STATES, 1794-1860

(*Ratio = Ounces of fine silver exchanged for 1 ounce of fine gold*)

Year	Ratio	Year	Ratio
1794	15.37	1828	15.78
1795	15.55	1829	15.78
1796	15.65	1830	15.82
1797	15.41	1831	15.72
1798	15.59	1832	15.73
1799	15.74	1833	15.93
1800	15.68	1834	15.73
1801	15.41	1835	15.80
1802	15.26	1836	15.72
1803	15.41	1837	15.83
1804	15.41	1838	17.85
1805	15.79	1839	15.62
1806	15.52	1840	15.62
1807	15.43	1841	15.70
1808	16.08	1842	15.87
1809	15.96	1843	15.93
1810	15.77	1844	15.85
1811	15.53	1845	15.92
1812	16.11	1846	15.90
1813	16.25	1847	15.80
1814	15.04	1848	15.85
1815	15.26	1849	15.78
1816	15.28	1850	15.70
1817	15.11	1851	15.46
1818	15.35	1852	15.59
1819	15.33	1853	15.33
1820	15.62	1854	15.33
1821	15.95	1855	15.38
1822	15.80	1856	15.38
1823	15.84	1857	15.27
1824	15.82	1858	15.38
1825	15.70	1859	15.19
1826	15.76	1860	15.29
1827	15.74		

No limit was placed upon the amount of gold or silver that an individual could have coined at the mint. In making coins, the mint added a suitable hardening alloy in specified quantities to the gold and silver, which otherwise would have worn away quickly in use. Coin designs were so devised as to make counterfeiting difficult.

Subsequently, the amount of fine silver in a silver dollar never was changed; but in 1834 the amount of pure gold in a gold eagle ($10) was reduced from 247.5 grains to 236.2, and in 1837 to 232.2.

Even before the new mint could be constructed and put into operation, the relative commercial or market values of gold and silver began to change, silver falling in value, and the market ratio rising above 15 to 1. Exhibit 1 gives the market ratios of gold and silver from 1794 to 1860.

Both gold and silver were minted in considerable quantities; but gradually, and probably as early as 1810, gold began to disappear from circulation. In the years 1814-1817, when a general suspension of specie payments (payments in coin) by the banks of the country occurred, the paper money (bank notes) of the country depreciated greatly, and coins of all kinds disappeared. After specie payments were resumed in 1818, gold did not return

EXHIBIT 2

COINAGE OF GOLD AND SILVER IN THE UNITED STATES, 1793-1837*

(Unit: $1,000)

Year	Gold	Silver	Year	Gold	Silver
1793–1795	71.5	370.7	1817	.....	607.8
1796	102.7	79.1	1818	242.9	1070.5
1797	103.4	12.6	1819	258.6	1140.0
1798	205.6	330.3	1820	1319.0	501.7
1799	213.3	423.5	1821	189.3	825.8
1800	317.8	224.3	1822	89.0	805.8
1801	422.6	74.8	1823	72.4	895.6
1802	423.3	58.3	1824	93.2	1752.5
1803	258.4	87.1	1825	156.4	1564.6
1804	258.6	100.3	1826	92.2	2002.1
1805	170.4	149.4	1827	131.6	2869.2
1806	324.5	471.3	1828	140.1	1575.6
1807	437.5	597.4	1829	295.7	1991.6
1808	284.7	684.3	1830	643.1	2495.4
1809	169.4	707 4	1831	714.3	3175.6
1810	501.4	638.8	1832	798.4	2579.0
1811	497.9	608.3	1833	978.6	2759.0
1812	290.4	814.0	1834	3954.3	3415.0
1813	477.1	621.0	1835	2185.2	3443.0
1814	77.3	561.7	1836	4135.7	3606.1
1815	3.2	17.3	1837	1148.3	2096.0
1816	.....	28.6			

*Quoted from Laughlin's *History of Bimetallism in the United States*, p. 249, and the *Statistical Abstract of the United States for 1900*, p. 44.

to circulation in any considerable volume until the Coinage Act of 1834 was passed. That act, slightly amended in 1837, reduced the fine gold content of the dollar to 23.22 grains. After this act there was a gradual substitution of gold for silver in the currency, as shown in Exhibit 2.

After the gold discoveries in Australia and California, the rapid disappearance of the silver coins—including the fractional coins—led to the passage of the "subsidiary" Coinage Act in 1853. By the provisions of this act, two half dollars or four quarter dollars were to contain 345.6 grains of fine silver instead of 371.25 grains. This act also took away the free coinage privilege in the case of these coins and made them legal tender for sums of $5 and less. The legal tender power of the silver dollar was not changed, and authority existed for its free coinage.

1. What benefits could have been expected to result from the Mint Act of 1792, in regard to:
   a) Interstate commerce?
   b) International commerce?

2. What was the effect of the Acts of 1834 and 1837 reducing the gold content of the dollar upon a British business house to which a Southern planter or Northern cotton importer owed a debt payable in dollars? Upon the owner of a bond of an American state?

3. What market ratio would result in the hoarding or melting up of the subsidiary coins?

3. United States

TYPES OF MONEY IN USE[1]

Types of money used in the United States, including coin and currency held by other banks than the Federal Reserve institutions, as well as that actually in public circulation at any given time, are divided into classifications by the Federal Reserve Bank of Cleveland, as follows:

Gold coin. Now minted in denominations of $5, $10, and $20. The gold dollar was made the standard of value in this country by the Gold Standard Act of 1900, and has, of course, full legal tender privileges. The circulation of gold has been gradually declining, paper currency taking its place, despite the tremendous increase of some 330% in our

[1] As reported in the *Boston Evening Transcript*, February 8, 1927. Reprinted here by permission.

gold holdings since 1900. As a fact, only 9% of the total stock of gold is now "in circulation," and the greater part of this is doubtless in the vaults of the commercial and savings banks of the country, as almost no gold actually passes from hand to hand. Following the establishment of the Federal Reserve System and the strain of war financing, the idea has become generally accepted that gold better serves its purpose when it is concentrated and serves as a reserve against currency circulation rather than when it is scattered and in general circulation itself.

Gold certificates. Issued in denominations of $10, $20, $50, $100, $500, $1,000, $5,000, and $10,000. These are backed dollar for dollar by gold held by the Treasury Department, are redeemable in gold, and are legal tender in payment of all debts. They are used as a substitute for gold coin, being considered more convenient and permitting the gold itself to remain in vaults, thus saving abrasion. In appearance, they are easily distinguished from other forms of currency by the yellow back, hence the term "yellowbacks." They showed a marked increase in circulation between 1900 and our entrance into the war, but then declined rapidly until 1922 because they were held in large quantities by Federal Reserve banks as reserve against Federal Reserve notes. They have since increased practically to their prewar level.

Silver coin. Consists of standard silver dollars and subsidiary coins. Silver dollars are legal tender for all debts in any amount;[1] subsidiary silver, up to $10 for any one payment. The public circulation of silver dollars has been much reduced in recent years, owing to popular dislike, but that of minor coins has grown with the population of the country, and the total amount of silver coin in circulation has shown a gradual increase since 1900.

Silver certificates. These are backed dollar for dollar by silver dollars held by the Treasury, and are now issued mostly in one-dollar denominations, although certificates of $2, $5, $10, $20, $50, and $100 may also be issued. They are redeemable only in standard silver dollars, and are not legal tender, but are receivable in payment of all public dues. Like gold certificates, they are used because they are convenient substitutes for coin. Their circulation gradually increased until the war period, when they almost disappeared as a result of the melting up and shipping to India of large amounts of silver dollars formerly used as a reserve against the silver certificates. With the passing of this temporary condition, silver certificates are again approaching their prewar circulation.

United States notes. The total stock of these notes is now fixed by law at $346,681,016 and a gold reserve of $153,000,000 is held against them at all times by the Treasury. They are the so-called "greenbacks," first issued during the Civil War. They are full legal tender

[1] Since 1873, new coinage of silver dollars has been prohibited, except as an emergency measure. The number of silver dollars now in existence is 533,493,778.

for all debts except import duties and interest on the public debt, and are redeemable in gold coin. They are issued in denominations of $1, $2, $5, $10, and $20, the one-dollar denomination being the most common. As the total amount of these notes has been fixed since 1878, the amount in actual circulation varies but little from year to year.

National bank notes. The National Bank Act, passed during the Civil War, authorizes any national bank to deposit certain government bonds with the Treasury and to issue national bank notes against these bonds having the "circulation privilege," up to the par value of the bonds. A redemption fund of 5% of its note circulation must be maintained by each issuing bank with the Treasury. The notes are obligations of the issuing bank, but are redeemable in lawful money, either at the Treasury or at the issuing bank. They are not legal tender, but are receivable for public dues except import duties. At present, these notes are issued in denominations of $5, $10, $20, $50, and $100; denominations of $1, $2, $500, and $1,000 are also authorized. Their circulation more than doubled between 1900 and 1915, but since the latter date has declined somewhat. Their potential circulation is limited by the total amount of bonds bearing the "circulation privilege," and when these bonds have all matured, national bank notes will disappear unless additional bonds bearing the circulation privilege are issued, or unless the present law is changed.

Federal Reserve notes. These notes, authorized by the Federal Reserve Act of 1913, may be issued by any Federal Reserve bank upon application to the Federal Reserve agent, together with collateral equal to the amount of the notes desired. This collateral may consist either of gold or gold certificates, or of commercial paper, and so forth, already purchased or rediscounted by the Federal Reserve bank. The bank must maintain at all times a gold reserve of at least 40% against its notes in circulation, partly in the form of a 5% redemption fund deposited with the Treasury. The notes are obligations of the government, redeemable either at the Treasury (in gold), or at any Federal Reserve bank (in gold or lawful money); they are receivable for all public dues; and they are issued in denominations of $5, $10, $20, $50, $100, $500, $1,000, $5,000, and $10,000. They are primarily intended to help supply the currency requirements of the member banks, and in normal times the supply tends to expand or contract in accordance with the needs of business. The circulation of these notes grew rapidly after our entrance into the war, and by the end of 1920 was greater than that of all other forms of money put together. After the passing of the depression period, with the reduction of member bank borrowings and the consequent reduction in the amount of Federal Reserve notes, their circulation declined to a little over one-half of the 1920 total, where it remained during 1925 and 1926, with a slight upward trend.

Two other forms of money whose circulation at present is negligible are (1) Federal Reserve bank notes and (2) Treasury notes of 1890. The former are issued by the Federal Reserve banks in the same way

as national bank notes are issued by national banks, and may be issued in the same denominations. In the years 1919-1921, when silver certificates were greatly reduced, a considerable amount of Federal Reserve bank notes were put out, mostly in one-dollar denominations, to increase the supply of small bills. The increase in silver certificate circulation during the past few years has resulted in the practical disappearance of Federal Reserve bank notes (which should not be confused with Federal Reserve notes). Treasury notes of 1890 were originally issued to pay for silver bullion purchased under the Sherman Silver Purchase Act of that year. The Act of 1900 provided for their retirement when received for redemption, and only a very small amount remain in circulation. They are redeemable at the holder's option in either gold coin or silver dollars, and are legal tender for all debts.

The average individual probably makes no distinction between the various types of money passing through his hands except as between gold, silver, and paper. The various forms of paper are accepted as money with equal readiness, are uniform in size, quite similar in color (except the gold certificate), and present no particularly distinguishing features to the casual observer. It may safely be stated that few people realize that there are today seven distinct kinds of paper money in use in the United States

The circulation of the various types on June 30, 1900, and June 30, 1926, was as follows:

	1900	1926
Gold coin	$ 610,806,000	$ 445,068,000
Gold certificates	200,733,000	1,057,364,000
Silver coin	142,050,000	321,952,000
Silver certificates	408,466,000	377,741,000
United States notes	308,000,000	294,916,000
National bank notes	309,640,000	702,669,000
Federal Reserve notes	.....	1,679,384,000
Federal Reserve bank notes	.....	5,453,000
Treasury notes 1890	76,027,000	1,356,000
Total	$2,055,722,000	$4,885,903,000

1. Under what circumstances, if any, would citizens of the United States prefer gold coins to the other types of money described?

2. Would all these types of money be accepted abroad equally readily?

XI

THE GOLD STANDARD AND BIMETALLISM

Bye, 190-207; Clay, 158-162; Edie, 506-513; Ely, 239-252; Fairchild, I, 383-407; Gide, 300-313; Rufener, 55-64, 486-509; Seager, 329-342, 384-391, 397-401; Seligman, 470-488; Taussig, I, 249-284, 434-443; Turner, 251-278.

1. France

BIMETALLIC CURRENCY SYSTEM

In 1803 the French currency system was fixed upon a bimetallic basis, with the franc as the unit of value. The coinage ratio was established at 15½ to 1, and the mint was opened freely to the coinage of both gold and silver. Both metals were made legal tender in unlimited amounts. The changes in the market ratio of gold and silver are indicated in the exhibit on page 157. During the period 1822-1851, large quantities of silver were regularly imported into France, as shown in Exhibit 1.

Beginning with 1852, however, as shown in Exhibit 2, silver

EXHIBIT 1

NET MOVEMENT OF SILVER INTO FRANCE, 1822-1851

Year	Net Imports (Francs)	Year	Net Imports (Francs)
1822	125,000,000	1839	75,000,000
1823	114,000,000	1840	96,000,000
1824	124,000,000	1841	117,000,000
		1842	92,000,000
1830	151,000,000	1843	103,000,000
1831	181,000,000	1844	82,000,000
1832	60,000,000	1845	90,000,000
1833	75,000,000	1846	47,000,000
1834	101,000,000	1847	53,000,000
1835	74,000,000	1848	214,000,000
1836	27,000,000	1849	244,000,000
1837	144,000,000	1850	73,000,000
1838	120,000,000	1851	78,000,000

EXHIBIT 2

MOVEMENTS OF GOLD AND SILVER TO AND FROM FRANCE, 1852-1864

Year	Silver Exports (Francs)	Gold Imports (Francs)
1852	3,000,000	17,000,000
1853	117,000,000	289,000,000
1854	164,000,000	416,000,000
1855	197,000,000	218,000,000
1856	284,000,000	375,000,000
1857	360,000,000	446,000,000
1858	15,000,000	488,000,000
1859	171,000,000	539,000,000
1860	157,000,000	311,000,000
1861	62,000,000	24,000,000 (Exp.)
1862	86,000,000	165,000,000
1863	68,000,000	12,000,000
1864	42,000,000	125,000,000

began to flow out of France, and gold to come in, a condition which persisted until after 1864.

1. How would you account for the change in the gold and silver movements to and from France after 1851?

2. Were both gold and silver used on equal terms as the standard money of France at any time from 1822 to 1864?

2. UNITED STATES

TRADE DOLLARS

Between 1869 and 1872 the production of silver in the United States increased very substantially; and this condition, coupled with the reform of the German currency and the impending establishment of the gold standard by the new German Empire, led to certain recommendations to the Secretary of the Treasury while the Coinage Act of 1873 was pending in Congress.[1] Great difficulty in maintaining the price of silver was foreseen and it was recommended that a market be sought in China for the silver bullion of the United States, through making a special coin for circulation there. The Pacific Mail Company was opening up

[1] These recommendations were made by Dr. H. R. Linderman, later Director of the Mint, whose *Money and Legal Tender*, pp. 47-59, is used in the preparation of this case.

new lines of steamship communication with the Orient; but the business of both Japan and China was being transacted in Mexican dollars. The latter coins had become practically the money of account and of commerce, and readily commanded a premium of about 8% in San Francisco (sometimes as much as 22%) for shipment to China in payment of debts due Chinese merchants, though the bullion value was only 1.6% in excess of the standard American silver dollar of 412½ grains.

The Director of the Mint consulted with some of the leading business men of San Francisco, as well as with some of the most prominent and intelligent Chinese merchants, and recommended the coinage of a new coin or disk, which should be slightly more valuable than the Mexican dollar, which contained 377¼ grains of pure silver. The new coin was to weigh 420 grains, and contain 378 grains of pure silver, and the weight and fineness (nine-tenths) were to be stamped on the reverse of the coin. This new coin was to be made only upon the request of the owner of the bullion and at his expense. It was not proposed to make the new coin legal tender in payment of debt, but it was to be simply a stamped ingot with its weight and fineness indicated. Thus, it was believed, the new coin could in no way give rise to any complication with the monetary system of the United States, since it contained more silver than the standard dollar (then worth more than a dollar in gold).

The recommendation was followed; and the new coin, the "trade dollar," was authorized in 1873. At this time the silver in the trade dollar was worth $1.04 in gold; therefore that coin would not be a coin of domestic circulation, but would serve as an agent in commerce with the Orient. Through an unintentional provision of the law, the trade dollar was included with other silver coins as legal tender for sums of $5.

So long as they were worth more as bullion than as money, the trade dollars were exported and were largely used in the China trade. They were legal tender at the ports of Foochow and Canton in China, and also at Saigon and Singapore, and although not legally current at Hong Kong, they were anxiously sought after by the Chinese, and were seldom to be purchased in the bazaars. The bulk of the direct exchange business between San Francisco and Hong Kong was done in this coin, the natives preferring it to the Mexican dollar. Advices from San Francisco reported

that so great was the demand for trade dollars for shipment to China that the California mint was unequal to the task of turning out the coin fast enough to satisfy requirements. Moreover, the American consul at Hong Kong wrote very enthusiastically about the trade dollar to the Secretary of the Treasury. "It is the best dollar we have ever seen here, and as there can be no doubt as to the standard and purity being maintained, it will become more popular day by day; and, we doubt not, ultimately find its way into the North of China, where the people are more prejudiced against innovation. My opinion is that ultimately it will be current all over China;[1] it is the best coin that ever has been imported, and, being produced at the fountain head of silver, can be laid down more cheaply than any other dollar. The reliable character of the coin (for weight or purity) is a further consideration, which must be favorably entertained."

In 1876 the limited legal tender power of the trade dollars was taken away. Meanwhile silver production had continued to increase, and the price of silver had dropped. In 1877 the open-market price of the 420 grains of standard silver (nine-tenths fine) in the trade dollar had fallen below 94 cents. Money brokers therefore began to reimport the coins into the United States, and trade dollars began to circulate in this country, especially in the remote sections of the country, despite the fact that they were no longer legal tender. The Secretary of the Treasury, therefore, closed the mints to their coinage, after $35,959,360 had been coined.[2] The trade dollars continued to circulate, however, and caused losses to ignorant holders of them. By Act of March 3, 1887, therefore, Congress provided for the redemption in standard silver dollars of all trade dollars presented to the Treasury within six months. The amount so redeemed totaled $7,689,036.[3]

[1] Trade dollars were current by count at Singapore, Penang, Bangkok, and Saigon; they were current by weight at Swatow, Amoy, Foochow, and Canton. In Hong Kong they were not legal tender, and the banks took them from each other by special arrangement; but the Chinese took them freely when they wanted coin of any description (which was very seldom, as they preferred bank notes, and only took coin from the banks when needed for export from the colony). In the South of China, the Straits, and Cochin China, the trade dollar was well known, and passed without comment along with the clean Mexican dollars.

[2] The cost of manufacturing the trade dollar was charged to the owners of the bullion; this was 1¼% at the Philadelphia Mint and 1½% at the San Francisco Mint, on the tale value.

[3] Barton Hepburn, *History of Currency in the United States*, p. 297.

1. Why did the trade dollars continue to circulate if they were no longer legal tender? Were they "money"?
2. Was the redemption act of 1887 sound? On what grounds?

3. United States[1]

PAYMENT OF GOVERNMENT OBLIGATIONS IN COIN

The report of the Director of the Mint shows that, notwithstanding the silver dollar occupied in law, prior to April 1, 1873, the position of an unlimited legal tender, gold has, for many years past, been the money of payment in this country.

It appears that but a comparatively small sum in silver-dollar pieces was ever coined, and that it, at no time, constituted an appreciable part of the circulation. This was due to the fact that silver was more valuable as bullion than its stamped or legal-tender value in the form of dollars. Since the fall of silver, propositions for the revival of the silver dollar have been made, and the position which it would occupy with reference to unexpired coin obligations, should its coinage with unlimited tender be again authorized, has been the subject of considerable discussion.

The question whether the pledged faith of the United States to pay its obligations in coin would justify their payment in the silver dollar, is of no small importance as affecting public securities of the United States. In any discussion of the question it must be conceded in the outset that the silver dollar was a unit of value, having the quality of legal tender for all sums and in all cases, and that the terms of the United States obligations do not exclude payment therein, and that the Act of 1869, in which is the pledge of payment in coin, does not, in terms, discriminate against silver. These provisions are broad enough, in terms, to include payment in either gold or silver, and compel an inquiry into the history, production, issue, and subsequent treatment of these obligations, and the relative condition of gold and silver coin as money of payment, in order to obtain a correct interpretation of the meaning of the language "payment to be made in coin."

Not long after the close of the Civil War, which gave rise to these obligations, doubts arose as to the kind of money in which these securities were payable, which led to the passage of the Act of 1869, entitled "An act to strengthen the public credit"; and it was intended to dispel all hesitation or doubt as to the purpose of the government upon the question, and by it the faith of the United States was pledged to the payment in coin of all its obligations, except those expressly otherwise provided for. This legislative action was in harmony with that of the executive administration.

What, then, was intended, and understood to be intended, by this

[1] *Annual Report of the Secretary of the Treasury on the State of the Finances for the Year 1876*, pp. xviii-xxi.

pledge of the government? Was it that the public securities were to be paid in gold coin, or in silver, or might be in either?

It will not be questioned by anyone conversant with the question at that time that the popular impression, not to say general conviction, was that the pledge was for payment in gold. This belief may have obtained from the fact that the interest on this class of obligations, payable in coin, had uniformly been paid in gold, that the customs receipts had been set apart to this end, and that these were paid in gold, and that the silver dollar had, as money of payment, theretofore gone into general disuse, especially in all large transactions, and could scarcely be considered as contemplated in any measure having for its object to provide for payment of sums so ample as the interest on the public debt, at that time amounting to the sum of $130,000,000. This view of the subject receives no inconsiderable support, also, in the legislation of Congress in 1873, by which the legal-tender quality of the silver coin was limited to $5. By force of the laws of trade, quite independent of those of Congress, the legal-tender silver dollar had actually disappeared from circulation as money, and although not abolished by act of Congress, it did not, as a matter of fact, exist for commercial purposes, and did not enter into money payments. The object and intent of the Act of 1873 was confessedly to give to gold the precedence in the statutes of the country it held in the commercial world practically, and to declare the gold dollar in law to be what it was in fact, the representative of the money unit. Gold had for many years been treated as the principal money of coin payments in legislation and in the transactions of the Treasury Department.

By the Act of 1873, the Treasury was authorized to receive deposits of gold coins and bullion, and to issue certificates therefor redeemable in gold coin, thus indicating that its obligations called for payment in gold and not in silver. This provision, it will be seen, is in consonance with the fact that our foreign exchanges for many years have been made upon the gold basis, and thus it is apparent that the general understanding has been of late years, for the consideration stated, that the money of coin payments was gold, and an obligation to pay in coin required payment in gold coin.

As was contemplated by Congress in the policy declared in 1869, the public securities then depressed immediately arose to par in gold, and have since maintained an enviable position at the money centers of the world. The five-twenty 6% bonds, then selling at 88 cents on the dollar, soon arose to par in gold coin, and have since borne the average premium of 5%, at home and abroad. At the present time, the borrowing power of the government is something less than 4½%. Its 4½% bonds, on short time, are readily taken at par in gold, and sold at a premium in this country and in Europe. If no disturbing element enters into our present monetary system, affecting the present policy of the government, it is believed that it will be found practicable, at no remote period, to fund the national debt into a 4% bond, and

this at an annual saving in the interest of the public debt of $25,800,000.

. . . . . .

It is a matter of deep public concern that a policy so beneficent in results and advantageous to the future should receive no detriment from conflicting interests, policies, or theories. Whatever may be thought of the right to pay these public securities in cheaper money, it will remain true that it is lawful to pay them in gold coin, that the belief that they were so to be paid has a practical value in the probable reduction of the public debt equal to one-fourth of the amount of the annual interest thereon.

. . . . . .

Was it to the public advantage that government debts be payable in gold coin?

4. Elfin Mining Company

Operation of Gold Mine

The Elfin Mining Company was located in South Dakota in a small town whose 600 inhabitants were dependent for a living either directly or indirectly upon the sustained operation of the mine. The company owned about 2,300 acres of mining land in one body, of which it had developed only about 350 acres. From the beginning of operations in 1911 until 1923, moderate monthly dividends had been paid.

The United States Treasury paid a fixed sum of $20.67 per fine ounce of gold for all gold delivered to it by mines. In 1918 and 1919, $20.67 per fine ounce of gold yielded the company a return in excess of operating, material, depreciation, and depletion charges. In 1920, 1921, and 1922, however, the Elfin Mining Company operated at a loss after allowing for depreciation and depletion charges. Late in March, 1923, the directors discussed the advisability of closing the mine.

In 1920 and 1921 a bill, H. R. 13201, had been presented before the House of Representatives in the United States Congress to provide a subsidy of $10 per ounce of gold mined. The sponsors of the bill gave as its purpose the protection of the gold reserves. Briefly, this bill provided that in addition to the standard payment of $20.67 per fine ounce for each ounce of gold delivered to the United States Treasury, a bonus of $10 an ounce should be paid.

The bill proposed an excise tax of 50 cents a pennyweight, or $10 an ounce, to be collected on the sale of all articles containing gold or gold used for other than monetary purposes. In this way there would be created a fund from which each gold producer in the United States would receive $10 an ounce for every newly produced ounce.

In support of the bill the following statements, among others, were made[1] by Louis T. McFadden, chairman of the Banking and Currency Committee of the House of Representatives:

Gold is our standard of value and the money of bank reserves. The entire body of outstanding indebtedness, public and private, including the Liberty bonds recently issued, is payable in gold coin of the present weight and fineness. . . . The outstanding indebtedness of nearly the entire world is contracted in gold. Outside of Asia, gold is still recognized as the unit of value and the basis of monetary systems, although in many countries the stress of war conditions and unbalanced trade have compelled a suspension of gold payments. All of these countries regard such suspension as temporary and desire to get back on the gold basis and establish their currencies in fixed relations to gold at the earliest possible date.

The report of the Gold Committee[2] states, "If at any time the bank situation calls for more gold in the United States, we can purchase it in the international gold markets far more cheaply than we can obtain it by the doubtful method of an expensive bonus on gold produced in the United States." Is it not evident that if the United States was forced to withdraw gold from the already depleted reserves of foreign countries, their purchasing power in our markets would be lessened? A still further decline in the exchanges of such countries from which the gold had been withdrawn would result. The loss of European purchasing power in the markets of the United States upon which our domestic industries depend for prosperity would occasion a loss far greater than the premium provided for in the bill, which is borne not by the public at large, but directly by the consumers of gold articles, luxuries. Since the consumers of gold in the industrial arts and trades are receiving their metal at the prewar price, no reason can be assigned why they should not pay an increased cost alike with all other industries which have been forced to pay the increased cost for their raw materials.

As compared to 1914, the purchasing power of the dollar in terms of all commodities in 1919 was 47 cents. The gold producers' ounce in 1914 had a purchasing power of $20.67, whereas during 1919 the same ounce could purchase in terms of all commodities but $9.70. Since the price of gold has been arbitrarily fixed by statute at $20.67 an

[1] Quoted in *Commercial and Financial Chronicle,* Vol. 111, pp. 1617, 1618.

[2] A committee of bankers which had reported on the bill.

ounce, the gold producer is in the same position as a person who received the same income in 1919 as in 1914 and finds that a $2,000 income has shrunken in purchasing power to $970. This is the principal reason for the decline in the gold production from $101,000,000 in 1915 to less than $50,000,000 this year. Were it not for the fact that the government has arbitrarily fixed the price of gold, in which event the law of supply and demand does not operate, it would not be necessary to consider compensating the gold producer for a part of the decline in the purchasing power of the dollar which has taken place the last four years. The premium to be paid to the gold producer, based upon the new ounce of production, cannot be construed as a bonus or subsidy for the above reason. Most of the wage increases that have been allowed by various industries and the increases in transportation rates, car fares, and for municipal gas and electric services throughout the country have been based upon the increase in commodity prices or the decline in the purchasing power of the dollar. The products of all other industries except that of the gold mining industry have been automatically increased in price during this period, so that the cost of production is fully covered, together with a profit, by which alone future production of such commodities may be assured. If we are to maintain the normal gold production of the United States, it will be necessary to take this into consideration. Gold is the only product, because it is fixed in price, that has not been able to respond to the law of supply and demand, and special provision must be made if we are to keep the gold production of the country from vanishing altogether.

The Committee makes a statement with reference to the effect of gold production as follows: "Increased gold production in a period of low prices and low costs makes it easier for prices to rise again, while diminished gold in periods of high prices and high costs tends to reduce prices and costs again." This is not borne out by the facts. The gold production of the world has declined from $469,000,000 in 1915 to $350,000,000 in 1919, a reduction of 25% in the last four years, and yet prices throughout the world have risen enormously. . . . Of the total gold stock of the United States, which amounted on October 1, 1920, to $2,704,672,504, $2,003,072,000 was held as the gold reserve of the Federal Reserve System and thereby was tied up by the Federal Reserve Act, 35% against net deposit liabilities, and 40% against the note liabilities of the Federal Reserve banks. After satisfying the reserve requirements of the net deposits there was on October 15, 1920, a gold cover of 46.6 cents for every Federal Reserve dollar note in circulation, of which there were $3,353,271,000. The gold cover on October 15, 1920, of the Federal Reserve note was but 6.6 cents per dollar above the amount required by law, which is closer than conservative financiers would like to see it.

. . . . . .

It is fundamental to the reestablishment of the gold standard as

the basis of world intercourse that gold mining should go on at something like its normal rate. This requires that prospecting, exploration, and development shall be carried on continually and that the industry shall invite investment upon terms fairly competitive with other industries. Gold mining under modern conditions is not an industry into which or from which capital can readily be shifted. It takes a long time to find and develop a good gold mine. It is not a casual industry, which can be suspended and resumed without serious interference with the volume of production. A considerable portion of the output always is obtained on a small margin of profit, and if such operations are suspended and the mines fill with water, they are likely to be abandoned permanently. The gold mining industry, which has so greatly shut down in the last four years, will be completely shut down unless constructive aid is provided without delay, in which event it will take years to develop a normal output of gold at a very much greater expense. To allow the gold mines of the United States to cave in and fill with water entails a waste of developed gold resources, which in a most critical hour of financial need will cause want.

Mr. George E. Roberts, who served for 14 years as Director of the Mint, in a statement of December 20, 1919, made the following comment: "I fear that a low production of gold and an unfavorable outlook for the industry at a time when credit was being curtailed and prices lowered would have the effect of reviving all the monetary heresies of the past. We want to stand by the gold standard; it is the sheet anchor of enduring prosperity; but the gold standard will require a healthy gold mining industry to sustain it."

A part of the opposition to the measure, as expressed by the so-called "Gold Committee," was summarized thus:[1]

The essential elements of the gold standard are: (1) the instant convertibility of all forms of representative money into gold on demand; (2) the free coinage of gold bullion; (3) the unrestricted melting down of gold coin into bullion; (4) the uninterrupted flow of gold from money into the arts, and the uninterrupted flow of gold from the arts into money; (5) the free export and import of gold. A tax of this kind, interfering with the free flow of gold into the arts, thus violates one of the basic elements of the gold standard.

Gold mining, however, though suffering under present conditions, enjoys a peculiar advantage which few other industries enjoy. As a consequence of the fact that gold is the standard of value, the price of gold in terms of gold money is necessarily fixed. The demand for gold, however, is always unlimited. The gold miner can always sell at a fixed price as much gold as he can possibly produce. He finds his costs rising in periods of boom and prosperity, and he suffers as a consequence. On the other hand, periods of adversity, depression, and falling prices bring to the gold miner, as to no one else, increased

[1] *Commercial and Financial Chronicle*, Vol. 111, p. 1616.

profits. He has an unlimited market in the worst depression, and the more severe the depression, the lower his costs of production tend to be. He is at present suffering in an intensified form from the upswing of prices and costs. He has in the past, however, enjoyed periods of prosperity when the rest of the community was suffering, and in the natural course of things he may look forward to the recurrence of similar situations.

After prolonged and detailed discussions as to its merits and defects, the bill was not passed by Congress.

In the early months of 1923, only the Elfin Mining Company and the Homestake Mining Company were operating gold mines in that section of South Dakota. The Homestake mine, which was one of the largest producing gold mines in the world, mined about 5,000 tons of ore a day. The Elfin Mining Company mined an average of 400 or 500 tons per day. Its ore, yielding from $4 to $6 worth of gold ore from each ton mined, was considered of low gold content. After the process of refinement by a cyanide process, 85% of the weight of the gold ore remained.

The company had driven a 1,600-foot tunnel at a cost of $50,000; it also had driven a shaft 300 feet into the earth and expected to reach a body of ore when this shaft was driven 600 feet. This shaft, which had been equipped with a modern head frame and all necessary machinery, consisted of three compartments, fully timbered. Other shafts and tunnels had been driven and utilized in previous years. The company also had installed a modern treatment plant at a capital investment of approximately $300,000.

Early in 1923, with production at 75% of the average yearly output, the company was employing 95 men, or approximately 65% of the number of men employed at the normal rate of production. Sixty-five per cent of the normal number of men employed produced 75% of the normal output, because at that time no men were carrying on development work. When the mine was operating on a normal basis, approximately 10% of the men were engaged in development work, which was not directly productive. In order not to show a loss, the company did not charge off any depletion or depreciation costs, and did not continue any development work. Exhibit 1, on the following page, shows the operating statements of the Elfin Mining Company, 1018 to 1922, inclusive.

EXHIBIT 1

CONDENSED OPERATING STATEMENTS OF ELFIN MINING COMPANY, 1918-1922

	1918	1919	1920	1921	1922
Revenue					
Sales, Mill Bullion	$530,642	$498,444	$340,862	$396,073	$329,218
Leases, etc.	11,626	5,725	2,579	3,059	2,873
Total	$542,268	$504,169	$343,441	$399,132	$332,091
Expenses					
Mining and Sales Operations	$333,264	$343,868	$337,053	$380,493	$309,502
Depreciation and Depletion	30,683	49,128	42,771	43,476	44,266
Total	$363,947	$392,996	$379,824	$423,969	$353,768
Net Profit	$178,321	$111,173			
Net Loss			$ 36,383	$ 24,837	$ 21,677

The balance sheet of the company on December 31, 1922, was as follows:

BALANCE SHEET, ELFIN MINING COMPANY, AS OF DECEMBER 31, 1922

ASSETS		LIABILITIES	
Real Estate	$ 725,616.64	Capital Stock	$1,000,000.00
Buildings	168,073.28	Bills Payable	111,000.00
Townsite	8,984.28	Accounts Payable	18,319.57
Mining Claims	3,220.00	Interest and Taxes	6,241.04
Machinery, Equipment, and Furniture	284,143.62	Depreciation Reserve	366,818.56
Stores	14,104.90	Surplus	316,049.66
Securities	10,635.63		$1,818,428.83
Accounts Receivable	20,620.08		
Cash	3,030.40		
Depletion, Prepaid	580,000.00		
	$1,818,428.83		

The manager of the company stated that, if the mine were to be closed for not more than seven or eight months the expenditure necessary for the resumption of operations would be only slightly more than was required to make ordinary repairs during operations. He stated, furthermore, that weight must be given to the consideration that the ore content of the holdings would decrease even while the mine was operating at a loss. The length of the period during which the Elfin Mining Company could take ore from its current holdings was not known. The manager maintained that it was economically unsound to deplete the resources of the mine during periods when the sale of the product could not yield a reasonable dividend on the capital invested. Unlike a

manufacturing establishment, which could produce an article as long as a market existed, the mine could operate only as long as its property contained pay ore.

On the other hand, a cessation of activities would cause hardship to the men and families who depended upon the mine for a living. In addition, if the mine should be closed for only a few months, it would be necessary to retain upon the pay roll most of the technical and management staff. If this were done, the expense of holding this nonproducing unit during the shutdown might diminish rapidly the surplus. If the technical and management personnel were not retained intact, the advantage gained through possession of a capable staff would be lost. Furthermore, an inactive mine ran the risk of grave loss which might be caused by entrance of water into the workings and by deterioration of underground structures; the value of the treatment plant, which cost $300,000, also would depreciate rapidly if inactive.

There was no likelihood that another legislative attempt would be made to provide for a bounty on gold production. The purchasing power of the dollar at the end of March, 1923, stood at about 60% of its 1913 purchasing power. No shortage of the stock of money gold in the United States had developed. Data concerning the gold situation are presented in Exhibit 2.

EXHIBIT 2

STATISTICS ON GOLD*

Years	Gold Production (Unit: 1,000 fine ounces)		Stock of Money Gold in United States (Average of Monthly Stocks—Unit: $1,000,000)	Gold Balance of United States (Unit: $1,000,000)	
	World	United States		Excess of Exports	Excess of Imports
1912	22,566	4,521	1,821	.....	19.1
1913	22,265	4,300	1,879	28.1	.....
1914	21,414	4,573	1,892	158.2	.....
1915	22,752	4,888	1,984	.....	420.5
1916	21,895	4,479	2,458	.....	560.2
1917	20,491	4,051	3,034	.....	180.1
1918	18,563	3,321	3,060	.....	21.0
1919	17,663	2,919	3,014	291.7	.....
1920	16,205	2,476	2,710	.....	95.0
1921	15,975	2,422	3,271	.....	667.4
1922	15,440	2,363	3,792	.....	238.3

*As reported by Standard Trade and Securities Service, *Annual Statistical Bulletin*, 1927, pp. 9 and 65

1. In 1920, should H. R. 13,201 have been supported by
   a) The Elfin Gold Mining Company?
   b) Congress?

2. Would you have advocated maintaining the gold standard?

3. "Gold is the only product, because it is fixed in price, that has not been able to respond to the law of supply and demand" (page 171). Do you agree?

4. In March, 1923, should this mine have continued operations?

5. What would be the effect of a decline of commodity prices upon the prospects of this company?

5. England[1]

RETURN TO GOLD STANDARD

But before I come to the prospects of 1925 I have an important announcement to make to the Committee. It is something in the nature of a digression, and yet it is an essential part of our financial policy. Ever since the spring of 1919, first under war powers and later under the Gold and Silver (Export Control) Act, 1920, the export of gold coin and bullion from this country, except under license, has been prohibited. By the express decision of the Parliament of 1920 the Act which prohibits the export was of a temporary character. That Act expires on the 31st of December of the present year, and Great Britain would automatically revert to the prewar free market for gold at that date. Now His Majesty's Government have been obliged to decide whether to renew or prolong the Act on the one hand, or to let it lapse on the other. That is the issue which has presented itself to us. We have decided to allow it to lapse. I am quite ready to argue the important currency controversies which are naturally associated with a decision of that kind, but not today—not in a budget speech. Today I can only announce and explain to the Committee what it is that the Government have decided to do, and I will do that as briefly as I can.

A return to an effective gold standard has long been the settled and declared policy of this country. Every Expert Conference since the War—Brussels, Genoa—every expert committee in this country, has urged the principle of a return to the gold standard. No responsible authority has advocated any other policy. No British Government—and every party has held office—no political party, no previous holder of the Office of the Chancellor of the Exchequer has challenged, or so far as I am aware, is now challenging the principle of reversion to the gold standard in international affairs at the earliest possible moment. It has always been taken as a matter of course that we should return to it, and the only questions open have been the difficult and the very delicate questions of how and when.

During the late administration the late Chancellor of the Exchequer

[1] Financial Statement, the Chancellor of the Exchequer (Mr. Churchill), April 28, 1925, *Parliamentary Debates*, Fifth Series, Vol. 183, pp. 51-58.

(Mr. Snowden) appointed a committee of experts and high authorities to examine into the question of the amalgamation of the Treasury and Bank of England Note Issues. The inquiry resolved itself mainly into an examination of whether and in what manner we should return to the gold standard. The committee was presided over by my right hon. friend who is now Secretary of State of Foreign Affairs (Mr. A. Chamberlain), and then a private member, and its other members were Lord Bradbury, Mr. Gaspard Farrer, Professor Pigou, and the Controller of Finance at the Treasury. This committee heard evidence from a great number of witnesses representing every kind of interest: financial and trading interests, manufacturing interests, the Federation of British Industries and others were heard. It has presented a unanimous report in which it expresses a decided opinion upon the question of the gold standard, and it sets forth its recommendations as to the manner in which a return to that standard should be effected.

. . . . . .

So much for the principle. There remain the questions of time and of method. There is a general agreement, even among those who have taken what I think I am entitled to call the heterodox view—at any rate, it is the view which we on this bench do not accept—that we ought not to prolong the uncertainty, that whatever the policy of the Government, it should be declared, and that, if we are not going to renew the act which prohibits the export of gold coin and bullion, now is the moment when we ought to say so. It is the moment for which the House of Commons has patiently waited at my request—and I express my obligation because I have not been pressed on this matter before—the moment at which it was, after long consideration, judged expedient that decisions should be made and actions taken. This is the moment most favorable for action. Our exchange with the United States has for some time been stable, and is at the moment buoyant. We have no immediate heavy commitments across the Atlantic. We have entered a period on both sides of the Atlantic when political and economic stability seems to be more assured than it has been for some years. If this opportunity were missed, it might not soon recur, and the whole finance of the country would be overclouded for a considerable interval by an important factor of uncertainty. Now is the appointed time.

We have therefore decided, although the prohibition on the export of gold will continue in form on the Statute Book until the 31st of December, that a general license will be given to the Bank of England for the export of gold bullion from today. We thus resume our international position as a gold standard country from the moment of the declaration that I have made to the chairman. That is an important event, but I hasten to add a qualification. Returning to the international gold standard does not mean that we are going to issue gold coinage. That is quite unnecessary for the purpose of the gold standard, and it is out of the question in present circumstances. It would be an unwarrantable extravagance which our present financial strin-

gency by no means allows us to indulge in. Indeed, I must appeal to all classes in the public interest to continue to use notes and to make no change in the habits and practices they have become used to for the last ten years. The practice of the last ten years has protected the Bank of England and other banks against any appreciable demand for sovereigns or half-sovereigns. But now that we are returning publicly to the gold standard in international matters with a free export of gold, I feel that it will be better for us to regularize what has been our practice by legislation. I shall therefore propose to introduce a bill which, among other things, will provide the following:

First, That until otherwise provided by proclamation the Bank of England and Treasury Notes will be convertible into coin only at the option of the Bank of England;

Secondly, That the right to tender bullion to the mint to be coined shall be confined in the future by law, as it has long been confined in practice to the Bank of England.

Simultaneously, with these two provisions, the Bank of England will be put under obligations to sell gold bullion in amounts of not less than 400 fine ounces in exchange for legal tender at the fixed price of £3-17*s*-10½*d* per standard ounce. If any considerable sum of legal tender is presented to the Bank of England the bank will be under obligation to meet it by bullion at that price. The further steps which are recommended by the Currency Committee, such as the amalgamation of the Bank of England and Treasury Note issues, will be deferred, as the committee suggests, until we have sufficient experience of working a free international gold market on a gold reserve of, approximately, £150,000,000. . . .

The Bill also has another purpose. We are convinced that our financial position warrants a return to the gold standard under the conditions that I have described. We have accumulated a gold reserve of £153,000,000. That is the amount considered necessary by the Cunliffe Committee, and that gold reserve we shall use without hesitation, if necessary, with the Bank Rate, in order to defend and sustain our new position. To concentrate our reserves of gold in the most effective manner, I have arranged to transfer the £27,000,000 of gold which the Treasury held against the Treasury Note issue to the Bank of England in exchange for bank notes. The increase of the gold reserve of the Bank of England will, of course, figure in their accounts.

Further, the Treasury have succeeded in discreetly accumulating dollars, and we have already accumulated the whole of the $166,000,000 which are required not only for the June payment but also for the December payment of our American debt and for all our other American debt obligations this year. Therefore—and it is important—the Treasury will have no need to go on the market as a competitor for the purchase of dollars. Finally, although we believe that we are strong enough to achieve this important change from our own resources, as a further precaution and to make assurance doubly sure, I have made arrangements to obtain, if required, credits in the United States of not

less than $300,000,000, and of course there is the possibility of expansion if need be. These credits will only be used, if, as, and when they are required. We do not expect to have to use them, and we shall freely use other measures in priority. These great credits across the Atlantic Ocean have been obtained and built up as a solemn warning to speculators of every kind and of every hue and in every country of the resistance which they will encounter and of the reserves with which they will be confronted if they attempt to disturb the gold parity which Great Britain has now established. To conform and regularize these credit arrangements, which I have had to make provisionally in the public interest, and to deal with the other points that I have mentioned, a short three-clause Bill will be required. . . .

In our policy of returning to the gold standard we do not move alone. Indeed, I think we could not have afforded to remain stationary while so many others moved. The two greatest manufacturing countries in the world on either side of us, the United States and Germany, are in different ways either on or related to an international gold exchange. Sweden is on the gold exchange. Austria and Hungary are already based on gold, or on sterling, which is now the equivalent of gold. I have reason to know that Holland and the Dutch East Indies—very important factors in world finance—will act simultaneously with us today. . . .

1. What countries are not now on a gold standard?

2. Was the gold standard reestablished in England by this action?

3. Why was the action taken as a desirable step? For wage earners? For money lenders with loans outstanding? For merchants and manufacturers? For exporters?

XII

PAPER MONEY

Bye, 190-207; Clay, 163-168; Edie, 511-513; Ely, 252-260; Fairchild, I, 406-411; Gide, 314-329; Rufener, 510-522; Seager, 397-401; Seligman, 488-495; Taussig, I, 304-324; Turner, 220-231.

1. France

FISCAL CRISIS, 1926

In the summer of 1926 France encountered acute monetary difficulties. French currency was inconvertible into gold, and currency inflation had proceeded so far that drastic action was called for. The situation was so grave that only a strong government could check the sharp decline of the franc and restore confidence.

The causes of the financial unsettlement were largely political rather than economic. They arose because of the inability of the French Government to collect taxes and to cut expenses sufficiently to balance the budget, and so to avoid increased borrowings from the Bank of France to make up the treasury deficits. The continued borrowings from the Bank of France increased the volume of paper francs outstanding and unsettled confidence generally.[1] Commodity prices rose and the value of French Gov-

[1] In describing the currency aspects of the period following the French Revolution of 1789, one author (H. A. Taine, *The French Revolution,* translation by J. Durand, Vol. 3, pp. 359 ff) had said:

> . . . . . During the four years of the Revolution, the total arrears of taxation amounted to 632,000,000—a bad debt that can hardly be recovered, and, in fact, it is already reduced one-half, since even if the debtor could and was disposed to pay, he would pay in Assignats, which, at this time, were at a discount of 50% . . . .
>
> Naturally, when there is no collecting a revenue and expenses go on increasing, one is obliged to borrow on one's resources, and piecemeal, as long as these last. Naturally, when ready money is not to be had on the market, one draws notes and tries to put them into circulation; one pays tradesmen with written promises in the future, and thus exhausts one's credit . . . . . The holders of Assignats were almost secured by *a first mortgage* on the national possessions, which had been given to them coupled with an engagement not to raise more money on this guaranty, as well as not to issue any more Assignats. But they did not keep faith. They rendered the security

ernment bonds (rentes) declined sharply. It was feared that the franc would follow the Russian rouble and German mark and become worthless. Therefore French exporters did not bring their money back to France, but placed the proceeds of the export trade in banks in London or New York, or in foreign investments. Also a "flight from the franc" occurred. This resulted in larger supplies of francs in the foreign exchange market as the frightened French investors offered to sell francs for dollars or

afforded by this mortgage inoperative and, as all chances of repayment disappeared, its value declined . . . . . At Paris, the paper money Assignat of 100 francs is worth in specie, in the month of June, 1791, 85 francs; in January, 1792, only 66 francs; in March, 1792, only 53 francs; rising in value at the end of the Legislative Assembly owing to fresh confiscations, it falls back to 55 francs in January, 1793, to 47 francs in April, to 40 francs in June, to 33 francs in July. Thus are the creditors of the state defrauded of a third, one-half, and two-thirds of their investment and not alone the creditors of the state, but every other creditor, since every debtor has the right to discharge his obligations by paying his debts in Assignats. Enumerate, if possible, all who are defrauded of private claims, all money-lenders and stockholders who have invested in any private enterprise, either manufacturing or mercantile, those who have loaned money on contracts of longer or shorter date, all sellers of real estate, with stipulations in their deeds for more or less remote payment, all landowners who have leased their grounds or buildings for a term of years, all holders of annuities on private bond or on an estate, all manufacturers, merchants, and farmers who have sold their wares, goods, and produce on time, all clerks on yearly salaries and even all other employees, underlings, servants, and workmen receiving fixed salaries for a specified term. There is not one of these persons whose capital, or income payable in Assignats, is not at once crippled in proportion to the decline in value of Assignats, so that not only the state falls into bankruptcy but likewise every creditor in France, legally bankrupt along with it through its fault.

Some of the results of this situation were recorded in the *Police Reports* of Paris (A. Aulard, *Réaction Thermidorienne,* Vol. 1) as follows:

December 29, 1794

The lack of faith in the Assignat has advanced so far that when a citizen complains of the excessive price of a commodity, the merchants offer to sell it at a discount of one-fifth, if payment is made in silver.

March 11, 1795

The unabated increase in the price of merchandise of all kinds favors only the greed of the merchants. Their actions, carefully planned, are responsible for the final attack on the Assignat. As masters of the financial situation, they adjust their prices according to the price of gold; and they, in turn, arbitrarily set the price of gold.

April 16, 1795

. . . . The public is astonished at the proposal to emit a new issue of Assignats when the number in circulation is excessive; and when, to reestablish the public credit, the government should be concerned with methods of withdrawing them. Speculators have taken advantage of the recent proposal of the Committee of Finance, and have increased the price of gold and silver.

June 12, 1795

Complaints are provoked by the penury that is revealed by many citizens of the working classes, particularly the proprietors and rentiers. Their wretched condition continually grows worse as a result of the almost com-

Exhibit 1

French Business and Financial Statistics

Date	Index of Wholesale Prices of Raw Materials* (Unit: 1% —1913 = 100)	Index of Retail Prices † (Unit: 1% —July, 1914 = 100)	Exchange Rate ‡ (Unit: U. S. cents per franc)	Note Circulation of Bank of France§ (Unit: 1,000,000 francs)	Advances to State by Bank of France¶ (Unit: 1,000,000 francs)
1921					
Jan.	416	410	6.433	37,913	25,600
Feb.	378	382	7.173	37,808	25,600
Mar.	357	358	7.034	38,435	25,200
Apr.	329	328	7.241	38,211	26,000
May	310	317	8.369	38,233	26,200
June	301	312	8.074	37,422	25,000
July	302	306	7.813	36,941	25,100
Aug.	313	317	7.758	36,783	24,900
Sept.	339	329	7.280	37,129	24,900
Oct.	339	331	7.252	37,154	25,100
Nov.	342	326	7.199	36,489	24,500
Dec.	337	323	7.845	36,487	24,600
1922					
Jan.	324	319	8.164	36,607	23,000
Feb.	311	307	8.730	36,258	22,500
Mar.	301	294	9.003	35,528	21,500
Apr.	298	304	9.229	35,787	22,100
May	303	317	9.120	35,982	23,100
June	313	307	8.765	36,039	23,300
July	323	297	8.237	36,050	23,000
Aug.	336	289	7.957	36,385	23,900
Sept.	340	291	7.659	36,603	24,000
Oct.	358	290	7.370	36,694	23,600
Nov.	370	297	6.858	36,114	22,900
Dec.	374	305	7.230	36,359	23,600
1923					
Jan.	404	309	6.677	37,084	23,100
Feb.	440	316	6.146	37,434	23,200
Mar.	448	321	6.324	37,187	23,100
Apr.	434	320	6.667	36,548	22,500
May	426	325	6.636	36,741	23,000
June	426	331	6.301	36,689	23,100
July	426	321	5.890	37,339	23,000
Aug.	440	328	5.650	37,364	23,400
Sept.	438	339	5.855	37,626	23,700
Oct.	443	349	5.949	37,848	23,400
Nov.	469	355	5.517	37,329	22,800
Dec.	483	365	5.250	37,905	23,300
1924					
Jan.	530	376	4.665	38,834	22,800
Feb.	585	384	4.419	39,345	23,100
Mar.	529	392	4.681	39,950	22,700

*Index at end of month calculated by the Statistique Générale de la France.
†Index for month of 13 commodities calculated by the Statistique Générale de la France.
‡Daily average of noon buying rates for Cable Transfers in New York.
§Bank notes; data at end of month.
¶From January, 1921, to May, 1926, items appear under caption "War Advances to the Government." Figures are for last report date of month.

EXHIBIT 1 (*Continued*)

FRENCH BUSINESS AND FINANCIAL STATISTICS

Date	Index of Wholesale Prices of Raw Materials * (Unit: 1% —1913=100)	Index of Retail Prices † (Unit: 1% —July, 1914 =100)	Exchange Rate ‡ (Unit: U. S. cents per franc)	Note Circulation of Bank of France§ (Unit: 1,000,000 francs)	Advances to State by Bank of France ¶ (Unit: 1,000,000 francs)
1924 *Cont'd*					
Apr.	466	380	6.157	40,021	22,700
May	479	378	5.792	39,556	22,700
June	490	370	5.253	39,665	23,000
July	511	360	5.118	40,325	23,000
Aug.	508	366	5.464	40,034	22,800
Sept.	517	374	5.302	40,339	23,000
Oct.	533	383	5.229	40,529	22,700
Nov.	542	396	5.276	40,447	22,600
Dec.	550	404	5.399	40,604	22,600
1925					
Jan.	556	408	5.392	40,516	21,200
Feb.	556	410	5.280	40,792	21,900
Mar.	559	415	5.181	40,892	21,800
Apr.	558	409	5.188	43,050	23,250
May	554	418	5.163	42,703	23,850
June	582	422	4.770	43,800	25,650
July	598	421	4.698	44,496	27,250
Aug.	604	423	4.691	44,702	27,750
Sept.	609	431	4.712	46,354	28,900
Oct.	640	433	4.431	46,678	29,950
Nov.	684	444	3.962	48,085	31,950
Dec.	711	463	3.736	51,085	35,950
1926					
Jan.	709	480	3.771	50,618	34,200
Feb.	710	495	3.678	50,991	34,500
Mar.	702	497	3.580	52,127	35,000
Apr.	714	503	3.388	52,208	35,150
May	753	522	3.151	52,735	35,900
June	804	544	2.942	53,073	36,600
July	935	574	2.466	56,022	37,450
Aug.	839	587	2.833	55,147	36,450
Sept.	843	590	2.855	55,010	36,650
Oct.	788	624	2.940	54,578	35,750
Nov.	708	628	3.417	53,263	35,700
Dec.	643	599	3.949	52,907	36,000
1927					
Jan.	627	592	3.958	52,172	32,550
Feb.	636	585	3.923	51,697	29,000
Mar.	643	581	3.913	52,385	28,150
Apr.	631	...	3.919	52,210	29,300
May	...	...	.....	.....	26,600
June	...	...	.....	.....	.....

*Index at end of month calculated by the Statistique Générale de la France.
†Index for month of 13 commodities calculated by the Statistique Générale de la France.
‡Daily average of noon buying rates for Cable Transfers in New York.
§Bank notes; data at end of month.
¶From January, 1921, to May, 1926, items appear under caption "War Advances to the Government." Figures are for last report date of month.

pounds, a condition reflected in a sharp decline in the value of the franc, which was accompanied by a rise of commodity prices. The month-to-month changes in these conditions are tabulated in Exhibit 1 and charted in Exhibit 2.

The decline in the value of the franc and the rise of commodity prices were sharp during July, 1926; and, in the third week of that month, the value of the franc reached the lowest figure, about 2 United States cents, in its history. By this time, French business and industry, as well as the economic life of the people, had become greatly upset. There was little saving; most people spent their money incomes quickly as the value of the paper money fell. Restaurant keepers said that never before had they done such good business, attributing this to the fact their customers no longer regarded paper money as worth saving. The public generally disposed of paper francs by putting them into stores of provisions; and, as the franc continued to go down, merchants and manufacturers became alarmed at the intense buying movement and showed less anxiety to increase their sales, since new supplies cost more than the old stock of goods had been sold for.

Some shopkeepers took advantage of the excuse of summer closing, which used to be general, and shut up shop. Others limited the quantity of goods which they were willing to sell for the rapidly fluctuating paper francs. Small coal dealers limited their deliveries to about 200 pounds, while the larger companies in-

plete loss of their property as a result of the depreciation of the Assignat. They received from their farmers and debtors money that has lost at least 80%.

August 29, 1795

Mally says that a rumor is circulating that the Assignat is to lose its value entirely; the result is that everybody is hastening to invest their Assignats in commodities.

December 5, 1795

On the situation in Paris as regards subsistence, the discredit of the Assignats, and the frightful dearness of merchandise, one hears only these words: "That cannot last long"; it is impossible that the government could ignore the fact that the major part of the inhabitants of Paris are dying of hunger, while the minority are swimming in abundance that speculation and theft have procured for them. The people are not ignorant of that fact that Paris has never been more stocked with provisions; it is this knowledge that irritates them. In the midst of the poor, dying of cold and sickness, there are stores full with flour, candles, metals, wood, wines, copper, shoes, and boots; and a metallic coin of 3 livres has the purchasing power of 6 livres in 1789. The louis is quoted at 4,000 livres, and it shall go higher. The merchant, or to speak more properly, the speculator, would not give you for 800 livres in Assignats what he would give you for a small écu (3 livres) in silver. And metallic money is rare in Paris.

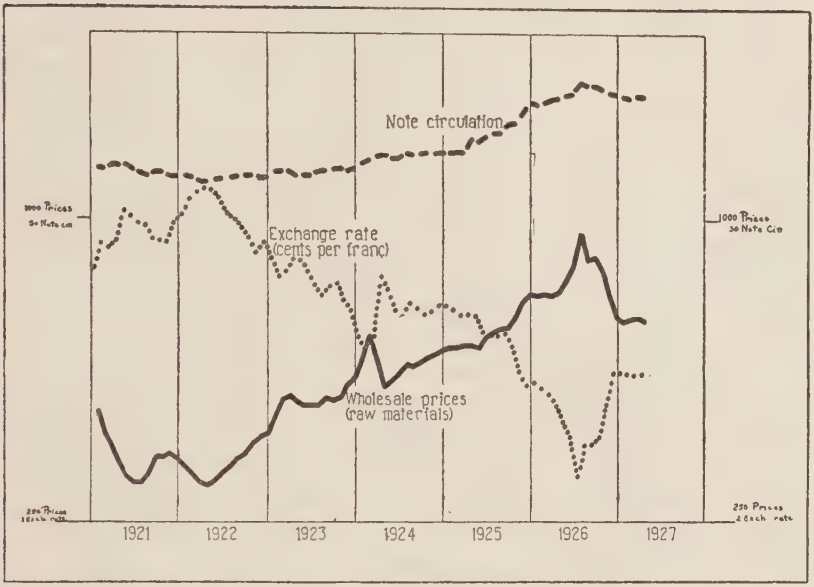

Exhibit 2: Wholesale price of raw materials, exchange rate, and note circulation for France, monthly, 1921-1927.

Note: The figures plotted on this chart are given in Exhibit 1. All the curves have been drawn on the same ratio scale, so that equal vertical distances measured upward represent the same percentage increase, and equal vertical distances measured downward, the same percentage decrease.

creased their prices 100 francs a ton. Furniture dealers refused to accept further orders at then existing prices and the wine dealers became wary and refused to deliver more than one bottle of old vintage at the time. Manufacturers also found it difficult to secure raw materials, and the silk industry in Lyons, the home of the Prime Minister, openly assailed parliament in an outspoken address, indicating that the industry was faced with disaster because of the inability to buy necessary raw-silk supplies abroad at the depreciated value of the franc. Even dressmakers had difficulty in getting trimmings and embroidery.

In the summer of 1926, when the franc dropped to between 2 and 3 cents, and worse disaster seemed to be impending, the several political parties agreed upon the formation of a strong government, pledged to restore confidence in the currency. This government went vigorously to work, and the results of its efforts were reflected in the recovery of the value of the franc during the latter half of 1926 and in a concurrent drop of commodity prices. The drop in commodity prices in turn brought about a business

depression which affected the French industry. The manufacture of textiles was sharply curtailed. Orders for goods were frequently deferred and unemployment increased. The unemployment conditions would have been worse had not some factories produced for stock in order to avoid adding to the number of unemployed workmen. While industrial output was declining, the financial situation, on the other hand, steadily improved and commodity prices became firmer. The Bank of France began to build up large gold resources abroad, and at the same time to reduce its note circulation somewhat. This development was facilitated by the reduction of the "advances to the state" as the government's borrowings from the bank are called. (Exhibit 1). On the whole, the adverse effect on industry occasioned by the stabilization of the franc was relatively moderate during 1926 and 1927; and, while retail prices continued to show a falling tendency as late as May, 1927, wholesale prices were practically stationary in that month. Industrial activity continued at a slower pace than in May, 1926, although unemployment continued to decrease.

1. Should the issue of paper money be prohibited under all conditions?

2. When the new French ministry was formed in the summer of 1926, what should have been its general policy in regard to currency matters?

3. What factors would lead to a "flight from the franc" and what to a repatriation (bringing home) of bank accounts and other funds held abroad?

4. Would repatriation increase the value of the franc? How would business activity be affected thereby?

XIII

THE GENERAL LEVEL OF PRICES

Bye, 226-240; Clay, 195-213; Edie, 148-164, 513-552; Ely, 291-318; Fairchild, I, 476-501; Gide, 61-64, 231-237; Rufener, 489-496; Seager, 391-397; Seligman, 453-469; Taussig, I, 232-248, 285-303, 415-433; Turner, 231-250.

1. Tuckson Manufacturing Company

INDEX OF PRICE CHANGES OF COMPANY'S PRODUCTS

In 1923 the Tuckson Manufacturing Company wished to measure the extent of the changes which had taken place in the prices of its products. The company produced several lines of electrical equipment units, the prices of which ranged from a few dollars to many hundreds of dollars. Each line comprised several products. Price changes usually took the form of a flat percentage increase or decrease for each line, thus affecting equally all constituent products therein. Sales records were kept, not in physical units, but in dollars.

Prior to 1914, the company had changed its prices infrequently and in small amounts, reflecting accurately variations in conditions of supply and demand. Sales in dollars, therefore, had been a close measure of physical volume of output because the ratio between volume and exchange value was practically constant.

During and after the war of 1914-1918, however, demand for commodities generally was suddenly increased. For many commodities, production actually decreased. This resulted in a tremendous upheaval in prices. Furthermore, the monetary systems of practically all countries were upset through the issue of tremendous sums of paper currency by warring nations. This caused an artificial and unstable rise in general prices. Although the United States remained upon the gold standard and was in a favored position, both in its supply of raw materials and in moderate interference with its monetary system, the rise of prices in this country was marked.

The company's immediate object was to make index numbers to show changes in the selling prices of its products. Since the various products were made and sold for various purposes, the price of no one article could be taken to represent price changes for the output as a whole. On the other hand, there were so many products that the company could not readily include them all in its calculations. There were five major groups of products, and the company decided to select one representative article from each of the five groups. These five articles, it was believed, would be a fair sample of the total output, and their use would simplify the making of index numbers.

The sample products were designated as No. 1, No. 2, No. 3, No. 4, and No. 5, and it was then necessary to put their prices together in such a way that the result would represent fairly the general price level of all the company's products. This required the construction of a system of weights. The company concluded that the fairest proportions would be the respective ratios of sales of the several lines represented by the samples, to the total sales of the company. Since the sales of some lines increased faster than the sales of others, it was necessary to provide for changes of weights each year in order that each index number would be fairly representative of the general price level for all sales for that year.

A method, therefore, was worked out for assigning weights to sample products. The sales for each line, represented by a sam-

EXHIBIT 1

ILLUSTRATION OF
COMPUTATION OF INTERNAL PRICE INDEX

(Year 1914)

Sample Products	Sales of Respective Lines (in thousands of dollars)	Weights	Average Prices of Samples (in dollars)	Prices Times Weights
No. 1	300	11	$ 8.50	93
No. 2	610	22	6.13	135
No. 3	1,019	37	84.90	3,141
No. 4	284	11	113.41	1,247
No. 5	521	19	20.50	390
Total	2,734	100		5,006

Index of Prices for year 1914 = 50.1.

EXHIBIT 2

ILLUSTRATION OF CONVERSION OF INTERNAL INDEX INTO RELATIVES, 1914-1922

Year	Yearly Price Indexes*	Index Series
1914	50.1	100
1915	47.2	94
1916	56.0	112
1917	61.9	124
1918	70.6	141
1919	72.7	145
1920	78.3	156
1921	74.5	149
1922	62.7	125

*Index for each year computed as shown in Exhibit 1.

ple, were listed and totaled. The weights consisted then in the relationships of the sales of the several lines to the total sales of all lines. For ease in subsequent computation it was desirable to express these weights on the basis of 100; that is, in percentage form.

The average selling price in dollars for each sample product during the year was then listed. These prices were multiplied by their respective weights, and the sum of the products divided by the sum of the weights. The percentage method of weighting facilitated this computation because multiplication was done easily by computing machines, and the division of the total was performed merely by pointing off two decimal places. The method is illustrated in Exhibit 1. An index number for each year was constructed in this manner. The index numbers thus obtained were then converted into terms of the base year 1914, which was set equal to 100, as shown in Exhibit 2.[1]

Did these price indexes furnish vital business information?

[1] In describing its method of computing index numbers, the Bureau of Labor Statistics of the U. S. Department of Commerce has said:

"In constructing the index numbers for the various groups of commodities the average price of each article in the year 1913 (selected as the base period in order to provide a prewar standard for measuring price changes) has been multiplied by the estimated quantity of that article marketed in the census year 1919. The products thus obtained have been added to give the approximate value in exchange in 1913 of all the articles in each group and of the total list of commodities. Similar aggregates have been made for each other year since 1890 and for each

2. Stound Equipment Company

VARIATIONS IN PRICE LEVELS

In 1923 the statistician of the Stound Equipment Company was requested by the management to prepare a forecast of the probable trend of orders to be received, at selling prices, up to 1935. The method which he used in doing this was as follows:

He first obtained the actual figures for orders received for the years 1895 to 1922, which were as listed under the heading, Actual Orders, in Exhibit 1, and plotted them on a chart, reproduced as Exhibit 2. The logarithmic scale was used in order that the percentage changes might be emphasized. A forecast necessitated the computation and extension of a long-time, or secular, trend of orders; such a trend would show the continuous increase or decrease in the company's business over a period of years, which would be caused by factors of more permanent nature than seasonal variations, changes in general business activities, or accidental movements. In the statistician's opinion, long-time changes were caused by growth of population and of the extent of business operations, by improved industrial technique, gradual exhaustion of natural resources, and other factors which operated from year to year with approximately constant force.

The statistician believed, however, that the influence of changes in general price levels as reflected in prices of the company's products should be eliminated before this computation was made. He consequently adjusted the figures, with the exception of those for the years 1895 to 1899, to the 1922 price basis by means of an index of the sales prices of 20 standard articles produced by the company. The products represented by the articles included in the index composed approximately 50% of the company's total output.

The adjustment was made as follows: For each one of the 20 products the company's selling price for the year 1914 was listed. Then the selling price of each product in 1922 was listed, and for each product the difference in price was expressed as a percentage

month since January, 1913, by multiplying the average price of each article for the year or month by the quantity marketed in 1919 and adding the results. The index number for each group and for all commodities for each year and for each month has then been obtained by comparing the aggregate for such month or year with the corresponding aggregate for 1913, taken as 100." U. S. Department of Commerce, Bureau of Labor Statistics, *Wholesale Prices, 1890-1925*, Bulletin No. 415, October, 1926, p. 2.

of the 1914 prices. These percentages then were added together and divided by 20; the result obtained, 146.5%, was taken to mean that in 1922 the 20 products, on the average, were being sold at prices 146.5% above the 1914 prices.

Although there had been moderate price changes from 1900 to 1914, they had occurred at an approximately consistent rate. This whole period, therefore, was accepted as normal, and the figures for each year in the period were adjusted in the same way as those for 1914. The figures for orders received during the years

EXHIBIT 1

ADJUSTMENT OF ORDERS RECEIVED, 1900-1922, TO 1922 PRICE LEVEL; STOUND EQUIPMENT COMPANY

(Prices in 1914=100)

Year	Actual Orders	Price Indexes	Price Index for 1922	Sales Values of Orders, Adjusted to 1922 Price Level*
1895	$ 1,240,000	...	.....	.....
1896	1,000,000	...	.....	.....
1897	1,320,000	...	.....	.....
1898	1,590,000	...	.....	.....
1899	2,590,000	...	.....	.....
1900	2,629,500	100	146.5	$ 3,852,200
1901	3,377,200	100	146.5	4,947,600
1902	3,671,100	100	146.5	5,378,200
1903	3,537,800	100	146.5	5,182,900
1904	3,192,500	100	146.5	4,677,000
1905	4,766,000	100	146.5	6,982,200
1906	5,756,300	100	146.5	8,433,000
1907	5,258,000	100	146.5	7,703,000
1908	3,822,600	100	146.5	5,600,100
1909	4,825,000	100	146.5	7,068,600
1910	6,239,900	100	146.5	9,141,500
1911	5,972,300	100	146.5	8,749,400
1912	8,341,000	100	146.5	12,219,600
1913	9,001,800	100	146.5	13,187,600
1914	6,386,200	100	146.5	9,355,800
1915	7,612,100	99.7	146.5	11,185,300
1916	13,544,200	119.6	146.5	16,590,500
1917	20,703,300	146.6	146.5	20,689,200
1918	18,961,700	167.5	146.5	16,584,400
1919	18,729,100	165.2	146.5	16,609,000
1920	25,916,500	184.2	146.5	20,612,200
1921	12,994,500	168.9	146.5	11,271,100
1922	19,049,100	146.5	146.5	19,049,100

*Calculations as shown by following examples:
1914. $6,386,200÷100=63,862×146.5=$9,355,800.
1918. $18,961,700÷167.5=113,204.17×146.5=$16,584,400.

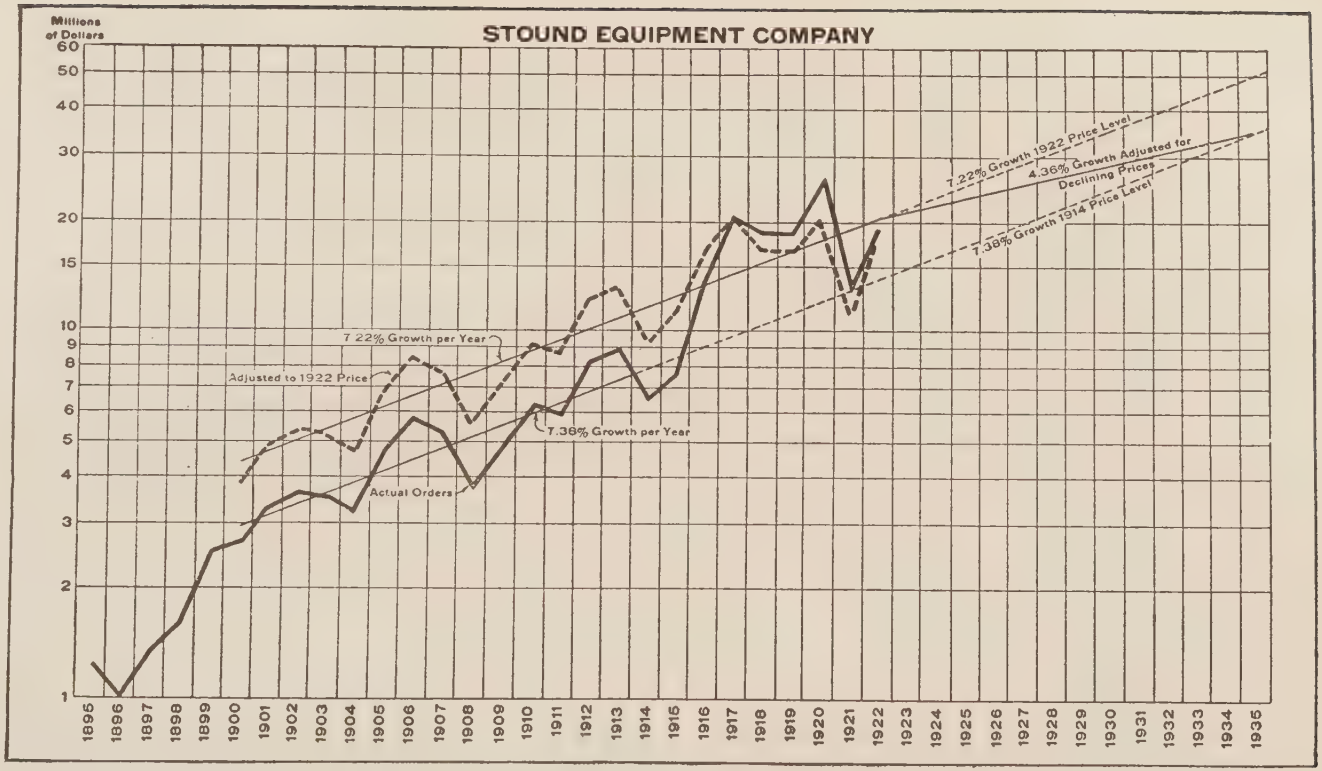

Exhibit 2: Forecast of annual orders, 1923-1935, based on actual orders, 1895-1922, adjusted for secular trend and price changes.

1900 to 1914 were divided by 100 and multiplied by 146.5. The sales figures for 1915 to 1922 were divided by their respective index numbers and reduced thereby to the 1914 price basis, and then were raised to the 1922 price basis by multiplication by 146.5. For example, for the year 1918 the actual figure for orders, $18,961,700, was divided by 167.5, the index number on the basis of 1914 as 100, and the quotient then was multiplied by 146.5, the 1922 index number. The result, $16,584,400, was the adjusted figure for orders for 1918. The price indexes used and the adjusted figures for orders are shown in Exhibit 1.

After the adjusted figures had been obtained, the statistician calculated that the basic growth of the company's business had been at the rate of an increase of 7.22% each year over the preceding year. He therefore drew a line on the chart in Exhibit 2 to indicate that rate of growth up to 1935.

In the statistician's opinion, the war-time boom might have had a misleading effect not only on the price situation but also on the volume of orders. For that reason, in another calculation, he disregarded the years 1915 to 1922, and computed a second secular trend by the same method on the basis of actual orders received from 1900 to 1914, inasmuch as he already had decided that the trend exhibited in that period was normal. This resulted

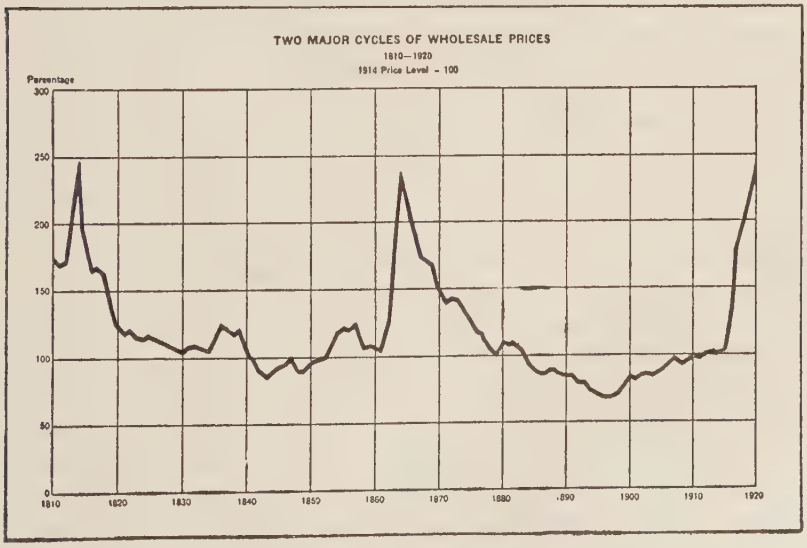

Exhibit 3: Movement of wholesale prices.

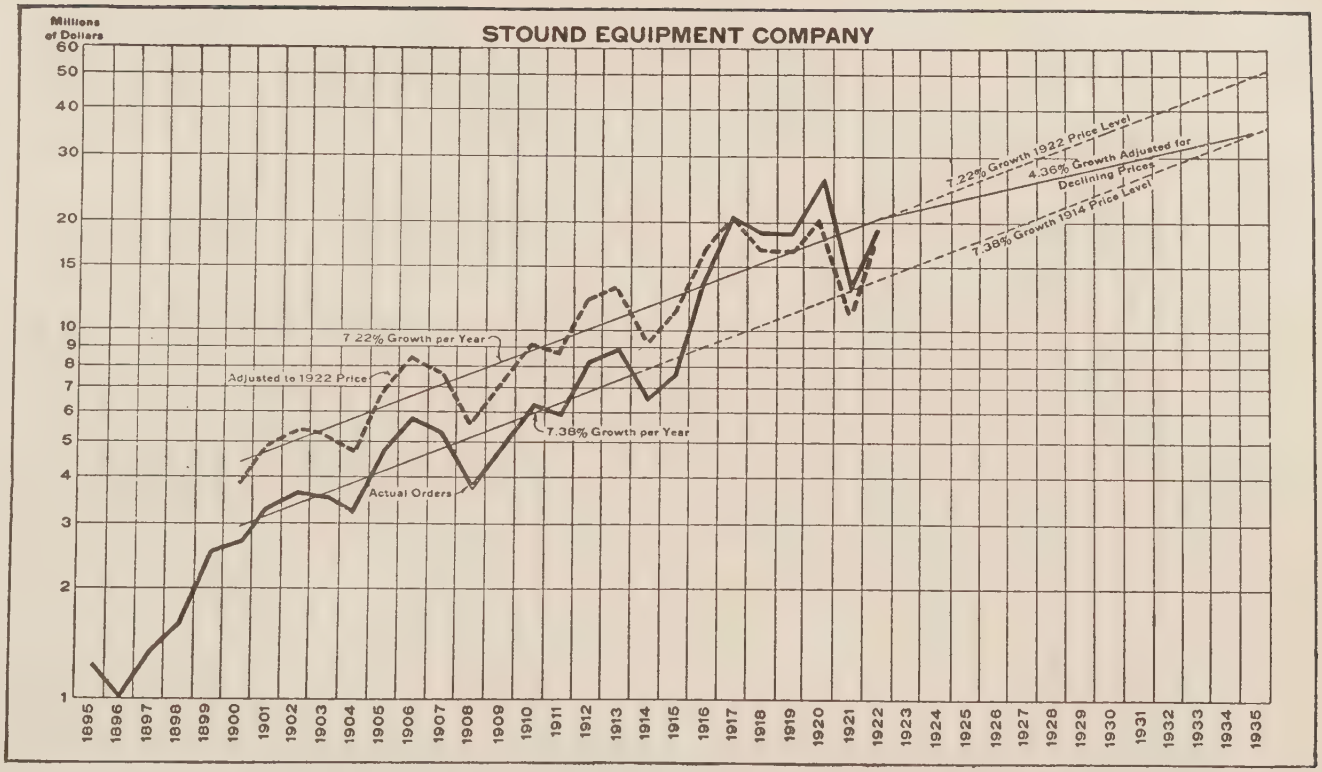
STOUND EQUIPMENT COMPANY
Millions of Dollars
7.22% Growth per Year
Adjusted to 1922 Price
7.38% Growth per Year
Actual Orders
7.22% Growth 1922 Price Level
4.36% Growth Adjusted for Declining Prices
7.38% Growth 1914 Price Level

Exhibit 2: Forecast of annual orders, 1923-1935, based on actual orders, 1895-1922, adjusted for secular trend and price changes.

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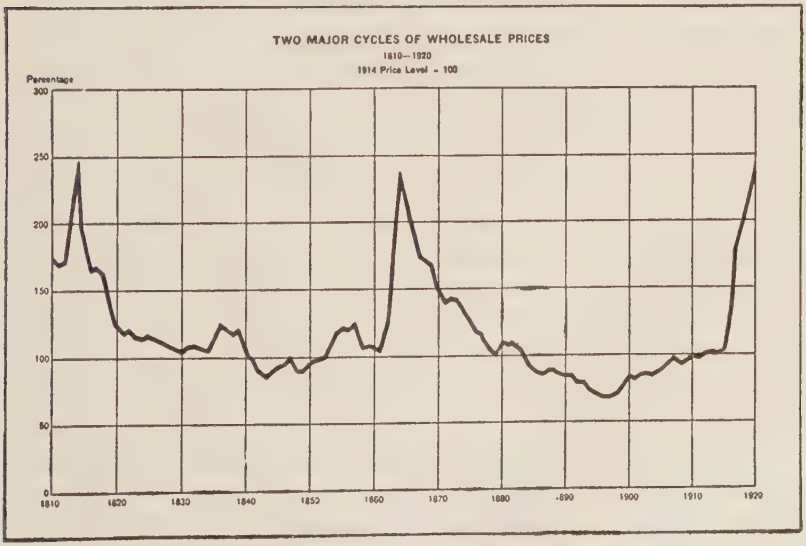


Exhibit 3: Movement of wholesale prices.

in a trend line showing a yearly increase of 7.38%, compounded annually, which he also projected to 1935 as the lower dotted line in Exhibit 2.

Inasmuch as the price index in Exhibit 1 showed sharp declines in 1921 and 1922, the statistician wished to allow for a possible continued decline in prices. He consequently examined the trend of commodity prices from 1810 to 1920, as shown in Exhibit 3. This chart was prepared from the index numbers for wholesale prices, for the years 1810 to 1920, with prices in 1914 taken as 100%; the index numbers are given in Exhibit 4. They constitute a continuous index number for wholesale prices, which was constructed by fitting together, on as nearly comparable a basis as possible, four independent and overlapping records of wholesale prices. From 1810 to 1825 the numbers were obtained from a record of Boston prices made by Alvin H. Hansen; from 1825 to 1860 they were computed from quotations of prices in New York in a report of Secretary Chase of the Federal Treasury in 1863; from 1860 to 1890 they were obtained from prices quoted in a report of the Finance Committee of the United States Senate in 1893; and from 1890 to 1920 they were the current wholesale price index numbers of the United States Bureau of Labor Statistics.

From Exhibit 3, the statistician observed that both after the War of 1812 and after the Civil War there had been a rapid decline of prices during the first two to six years. This was followed by a gradual downward movement extending for about 30 years after the war-time peak; normal was reached, however, approximately 15 years after the peak. Since he was convinced that the general price situation in 1922 presented a close analogy to the price situations following the War of 1812 and the Civil War, and that consequently the movement of prices would be similar to the movements which had occurred in the past, he assumed that the price level again would reach normal 15 years after the peak, or in 1935. He decided, therefore, to make an adjustment in his estimates to compensate for such a decline in prices. Since he had determined upon the 1914 price level as normal, he reasoned that the probable volume of orders at selling price in 1935 would be shown by the projection to 1935 of the trend for the period 1900 to 1914. To indicate the probable orders to be received during the period from 1922 to 1935, therefore, the statistician

EXHIBIT 4

INDEX NUMBERS FOR WHOLESALE PRICES, 1810-1920*

(Prices in 1914=100)

Year	Index Numbers	Year	Index Numbers	Year	Index Numbers
1810	173	1850	95	1890	84
1811	168	1851	97	1891	84
1812	170	1852	98	1892	79
1915	198	1853	109	1893	79
1814	247	1854	118	1894	72
1815	194	1855	121	1895	70
1816	165	1856	119	1896	67
1817	167	1857	125	1897	67
1818	163	1858	105	1898	69
1819	141	1859	107	1899	76
1820	123	1860	105	1900	83
1821	118	1861	103	1901	81
1822	121	1862	122	1902	84
1823	115	1863	168	1903	85
1824	114	1864	237	1904	84
1825	115	1865	218	1905	87
1826	113	1866	194	1906	92
1827	111	1867	174	1907	97
1828	108	1868	170	1908	92
1829	107	1869	166	1909	95
1830	103	1870	148	1910	99
1831	107	1871	137	1911	96
1832	108	1872	142	1912	100
1833	107	1873	141	1913	101
1834	104	1874	134	1914	100
1835	111	1875	126	1915	101
1836	125	1876	117	1916	124
1837	120	1877	114	1917	176
1838	116	1878	103	1918	196
1839	121	1879	99	1919	212
1840	103	1880	110	1920	244
1841	99	1881	107		
1842	88	1882	109		
1843	84	1883	103		
1844	88	1884	93		
1845	93	1885	87		
1846	95	1886	85		
1847	100	1887	85		
1848	87	1888	88		
1849	89	1889	85		

*Material taken by company from *The Annalist*, New York, Monday, April 11, 1921, p. 425.

drew on Exhibit 2 a line connecting the 1922 point on the 1900-1922 trend line with the 1935 point on the projection of the 1900-1914 trend line. It seemed evident that by 1922 the period of

rapid price decline already had ended. From the trend line drawn to compensate for the probable decline in prices from 1922 to 1935, the statistician made his final estimate, in dollars, of the orders the company probably would receive. From these figures, the annual increase was found to approximate 4.36%. Exhibit 5 contains the forecast of orders to be received yearly, from 1922 to 1935, as determined by the readings from Exhibit 2.

EXHIBIT 5

FORECAST OF ANNUAL ORDERS TO BE RECEIVED, 1922-1935, BY STOUND EQUIPMENT COMPANY

Year	Amounts of Orders	Year	Amounts of Orders
1923	$21,180,000	1930	$28,500,000
1924	22,080,000	1931	29,700,000
1925	23,070,000	1932	31,050,000
1926	24,050,000	1933	32,450,000
1927	25,100,000	1934	33,800,000
1928	26,180,000	1935	35,300,000
1929	27,300,000		

1. Was the statistician correct in estimating that prices of the company's products would follow the same course as general price levels from 1922 to 1935?

2. Would possession of index numbers of general prices and of prices of the company's products afford any means of detecting changes in the exchange values of the company's products?

3. RAND KARDEX COMPANY, INCORPORATED

ISSUE OF STABILIZED BONDS

In the summer of 1925 the preferred stockholders of the Index Visible Company, which it was proposed to merge with the Rand-Kardex Company, another manufacturer of filing devices, were offered the choice of $800 par value of 7% preferred stock or $800 par value of an issue of "7% Thirty Year Stabilized Bonds" for $750 par value of the 8% preferred stock of the Index Visible Company.

It was felt by the officers of the two companies which were being merged, that a distinct service would be performed for investors if the latter could be protected against fluctuations in

purchasing power arising from changes in the value of the dollar. It was recognized that the rise of commodity prices following 1900 had lessened the "real income" of the interest received on bonds; and it was desired to protect investors from similar loss of purchasing power, should prices continue to advance.[1]

[1] In hearings on this topic before a congressional committee, Professor Irving Fisher has said, in part: " . . . . If you suppose a company which before the war was doing a business with a capital of $100,000,000, evidenced by stock certificates, and $100,000,000 in bonds, and that company was earning 5% on each, then the stockholder and the bondholder would be getting, respectively, $5,000,000 apiece. Now, suppose that the war comes and doubles prices. Then that company, if it is a typical company, will be able to get for its products double the price it formerly did, it will also have to pay double the expenses for raw materials, wages, and so forth. If the receipts, therefore, are doubled, and the expenses are doubled, their profits are doubled; so that instead of making $10,000,000, as they did before, to be distributed to the stockholders and bondholders, they will be making $20,000,000, but this $20,000,000 will only have the same value in purchasing power as the original $10,000,000. They are not really making any more. They are merely making more measured in a depreciated dollar. They are selling the same physical volume of products, and the general price level is doubled, so that, measured in terms of commodities, the $20,000,000 is the exact equivalent of the previous $10,000,000. And if it were not for that disturbance of the price level, the disturbance in the dollar, there would have continued to be this 50-50 division between the stockholders and the bondholders.

"But in view of this change you can see at once that the bondholders will not get their half. They are tied down by contract to 5%. Consequently they will get $5,000,000, which nominally is the same amount they got before, but really is half as much in purchasing power. If they get $5,000,000 out of the $20,000,000, there will be $15,000,000 left for the stockholders. The stockholders therefore are getting nominally three times what they got before; and that is the way things looked in 1919. You remember the enormous dividends that were being distributed. But that is partly an illusion, because prices are doubled, so that they really are not getting three times as much, but one and one-half times as much when you take into account the cutting in two of the dollar.

"Therefore, you see, the stockholders have gained 50% over what they used to get. They got $5,000,000 before. Now they get $15,000,000, which has the value that seven and one-half million used to have. So they have increased their real income in bread and butter, the comforts of life, by 50%; and the bondholders have decreased theirs by 50%. The unstable dollar has picked the pockets of the bondholders and taken half of what they had there in real value, and put it into the pockets of the stockholders.

"That is one illustration.

"Now take the opposite. Suppose we start with a given price level, and then, because of deflation, it is cut in two. Suppose, as before, that at the start there were $100,000,000 of stocks and $100,000,000 of bonds, each yielding 5%. There will be the $10,000,000 with which you started before, evenly divided between stockholders and bondholders. But after the price level has dropped to half of what it was—in other words, after the dollar has doubled in purchasing power—see what will happen. Instead of sharing 50-50, the bondholders will now take the whole thing, because they are entitled, under the legal terms of the contract, to get 5%, and there is only $5,000,000 now earned. For if the price level is dropped, the receipts and expenses have been cut in two, and the profits cut in two. Instead of $10,000,000 profits, there will be only $5,000,000 profits, and the bondholders will get it all. There will be no net profits left for the stockholders, who will get nothing." *Stabilization,* Hearings before the Committee on Banking and Currency, House of Representatives, 69th Congress, Part I, pp. 79, 80.

The increase of wholesale commodity prices, as measured by the annual index numbers of the United States Bureau of Labor Statistics, is shown by the figures in Exhibit 1.[1] By dividing 100% by each of these index numbers, a rough measurement of the changes in the purchasing power of the dollar can be secured. The annual index numbers are shown in Exhibit 1. To meet the situation created by the changing value of money, the stabilized bonds, "safeguarded as to purchasing power of both principal and interest," were devised.

EXHIBIT 1

ANNUAL INDEX NUMBERS OF WHOLESALE PRICES, "ALL COMMODITIES," 1900-1925*

(Estimated Value in 1913=100)

1900.....80.5	1910.....100.9	1920.....226.2
1901.....79.3	1911..... 93.0	1921.....146.9
1902.....84.4	1912..... 99.1	1922.....148.0
1903.....85.5	1913.....100.0	1923.....153.7
1904.....85.6	1914..... 98.1	1924.....149.7
1905.....86.2	1915.....100.8	1925.....158.7
1906.....88.6	1916.....126.8	
1907.....93.5	1917.....177.2	
1908.....90.1	1918.....194.3	
1909.....96.9	1919.....206.4	

*United States Bureau of Labor Statistics, *Wholesale Prices, 1890 to 1925*, Bulletin No. 415, October 1926, p. 9.

By the terms of the bonds, payments of principal and interest were to be increased or decreased in proportion to the rise or fall of the index number. For each 10% rise or fall of the index number, 10% was added to, or subtracted from, any payment due. Smaller variations than 10% were to be unadjusted. The index number employed was that for wholesale prices of the United States Bureau of Labor Statistics and applied as of January 1, April 1, July 1, and October 1, the quarterly due dates, each such index number being a three months' average. The monthly index numbers, 1916 to 1925, are shown in Exhibit 2.

The following is an example of the use of the monthly index numbers: For October 1, 1925, the average of the index numbers for August 1, September 1, and October 1 was calculated to be 159.2, while the index number as of July 1, the starting point, was 157.5. Since the October 1 index number (159.2) did not

[1] See also the case of the Stound Equipment Company, Exhibit 3, page 193.

Exhibit 2

Monthly Index Numbers of Wholesale Prices, "All Commodities," 1916-1925*

(Estimated Value in 1913=100)

Month	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925
January	112.8	152.9	184.3	198.8	233.2	169.8	138.3	155.8	151.2	160.0
February	115.1	156.8	185.7	193.4	232.4	160.1	141.4	156.7	151.7	160.6
March	118.5	162.4	186.6	195.9	234.4	155.4	142.2	158.6	149.9	161.0
April	121.1	172.9	190.0	198.7	244.6	147.9	142.6	158.7	148.4	156.2
May	122.4	182.6	190.1	202.2	246.7	145.5	147.6	156.2	146.9	155.2
June	122.6	185.5	191.4	202.8	243.3	141.6	149.6	153.5	144.6	157.4
July	123.2	187.6	196.1	212.0	240.7	141.0	154.9	150.6	147.0	159.9
August	126.3	189.4	199.7	215.9	231.4	141.5	155.0	150.1	149.7	160.4
September	129.6	187.1	204.0	210.3	226.2	141.5	153.3	153.7	148.8	159.7
October	135.6	182.7	201.9	211.3	211.3	141.6	154.1	153.1	151.9	157.6
November	145.6	183.1	202.9	217.1	196.4	140.7	155.5	152.1	152.7	157.7
December	148.8	182.4	202.2	223.4	179.2	139.8	156.2	151.0	157.0	156.2

*United States Bureau of Labor Statistics, *Wholesale Prices, 1890 to 1925*, Bulletin No. 415, pp. 24, 25.

EXHIBIT 3

VARYING INTEREST PAYMENTS PROVIDED FOR IN STABILIZED BONDS

a) The quarterly payment at any due date shall be:

$19.25, if index is as large as 173.25, but not as large as 189.00
21.00, if index is as large as 189.00, but not as large as 204.75
22.75, if index is as large as 204.75, but not as large as 220.50
24.50, if index is as large as 220.50, but not as large as 236.25
26.25, if index is as large as 236.25, but not as large as 252.00
28.00, if index is as large as 252.00, but not as large as 267.75
and so forth, for still higher price levels.

b) The quarterly payment at any due date shall be:

$15.75, if index is as small as 141.75, but not as small as 126.00
14.00, if index is as small as 126.00, but not as small as 110.25
12.25, if index is as small as 110.25, but not as small as 94.50
10.50, if index is as small as 94.50, but not as small as 78.75
8.75, if index is as small as 78.75, but not as small as 63.00
7.00, if index is as small as 63.00, but not as small as 47.25
and so forth, for still lower price levels.

deviate from the July 1 index number (157.5), by as much as 10%, there was no adjustment in the payment to the bondholder. He, therefore, received $17.50, or at the rate of $70 a year, on a $1,000 bond.

Under the term of the bond, the quarterly payment would always be $17.50, provided the index number did not reach 173.25 (10% above the original par figure of 157.5), or sink below 141.75 (10% below 157.5). If, however, the index number should subsequently be, say 180, then the quarterly payment, instead of being $17.50, would be $1.75 more, or $19.25.

It was provided in the bond that in case the United States Bureau of Labor Statistics should discontinue the computation[1] and publication of its monthly index of wholesale prices, or the publication should be delayed so as to prevent its use, the Trustees (the Buffalo Trust Company) should substitute such other index numbers or method of ascertaining changes in the price level as in their opinion most closely resembled the index numbers and method of arriving thereat of the United States Bureau of Labor Statistics.

The varying amounts of interest payments per $1,000 bond are shown in Exhibit 3, taken from the provisions of the bond.

Likewise it was provided that the principal sum at maturity

[1] For a brief statement of the method of computation, see case of the Tuckson Manufacturing Company, footnote 1, page 189.

should be one thousand dollars ($1,000) if the index number as of such date of maturity lay between 141.75 and 173.25; eleven hundred dollars ($1,100) if the index number as of such date was as large as 173.25, but not as large as 189.00, and so forth, for still higher price levels. It should be nine hundred dollars ($900) if the index number were as small as 141.75, but not as small as 126.00, and so forth, for still lower price levels.

In connection with the merger, stabilized bonds to the extent of $350,000 were issued on July 1, 1925, to holders of the preferred stock of the Index Visible Company, who chose them instead of preferred stock; but when the Library Bureau, another company engaged in the same line of business, was added to the combination, during the latter half of the same year, the bonds were paid off in accordance with a policy of paying all debts. The stabilized bonds, therefore, disappeared from financial markets. At no time had there been an offering of the securities to the general investment public.

1. If you had been offered the choice of preferred stock or stabilized bonds as described, which would you have selected? Would your answer be different if you had been offered a choice of common stock or fixed-income bonds?

2. Would you recommend general adoption of the stabilized bond plan by companies or governments issuing bonds?

3. Would you expect "stabilized bonds" to appeal to investors generally? To borrowers?

XIV

BANKING OPERATIONS

Black, 659-663, 668-677, 686-700, 742-747; Bye, 208-225; Clay, 169-194; Edie, 553-562; Ely, 261-271, 510-512; Fairchild, I, 412-445; Gide, 384-394, 413-440, 741-744; Rufener, 523-538, 603-623; Seager, 343-358; Seligman, 496-520; Taussig, I, 325-353; Turner, 279-304.

1. Dominion Trust Company

ESTABLISHMENT OF A SAVINGS DEPARTMENT

The Dominion Trust Company, with capital, surplus, and undivided profits amounting to $1,000,000, and deposits of $6,000,000, in a city of 100,000, was a profitable commercial bank. The city was developing rapidly along industrial lines. With this development, and the resulting steady increase in the percentage of small wage earners, there arose an increased demand for savings departments.

There were about 2,000 depositors on the books of the Dominion Trust Company. The largest depositors, each of whose deposits averaged over $50,000, were 11 textile mills, 8 shoe factories, 3 local public utility corporations, a large retail grocery company with 6 stores in different parts of the city, and 3 private individuals. The balance of these 26 depositors together comprised about one-third of the bank's total deposits. Of the remaining $4,000,000, about 65% was made up of the commercial deposits of some 500 local business enterprises of all kinds, and 35% was made up of the personal accounts of the bank's other depositors. On average deposits of $500 or more, the bank paid 2% interest.

At a meeting of the board of directors it was urged that the bank should establish a savings department. Several directors thought that the bank could attract a considerable proportion of the savings deposit business being done by its competitors, and that, moreover, the bank should take advantage of the opportunity

for profitable expansion and for increasing its prestige in the community which the savings deposit field offered. In addition, they stated that the expense of organizing and operating such a department would not be excessive. Two officers of the bank had had experience with savings departments in other banks before joining the Dominion Trust Company.

Other directors, however, thought such a step inadvisable as a matter of principle, and argued that the proposed type of deposits was fundamentally unlike the commercial and checking accounts which the bank was already handling, and that, therefore, it was unwise to attempt a combination of the two. They said, further, that the bank's efforts should be directed towards an increase in the type of business which had proved consistently profitable in the past.

In the state where the company operated, savings departments in commercial banks were subject to a state regulation fully as strict as that applied to savings banks. Savings deposits, and the investments or loans made of them, had to be appropriated solely to the security and payment of such deposits, and could not be mingled with the other investments, or funds controlled by the company. The state law prescribed what bonds were legal investments for savings banks or deposits, and under what conditions loans could be made of those deposits on real estate mortgages and other securities. Safety was the chief purpose of these regulations. Since savings deposits were, on the average, of semipermanent nature, and withdrawals comparatively infrequent, reserves against those deposits were small, and nearly all the funds could be invested. Current interest rates on legal investments would permit the bank to pay 4% on savings deposits, and still make a net profit. Individual savings accounts would be limited by law to $2,000 each.

Savings deposits, after the Comptroller of the Currency announced in 1903 that national banks legally could accept such deposits, had become an important part of total individual deposits in the banks of the United States. On June 30, 1926, for instance, the total individual deposits in all banks reporting to the comptroller were $48,882,296,000, of which $21,042,303,000 were savings deposits or deposits in the interest or savings departments of the banks. Per capita individual deposits were

estimated at $381.32, and per capita savings deposits at $164.15.[1]

1. What should the directors have decided?
2. Why does the law regulate the issues of bonds that may be bought by savings banks?

2. Winchender Bank and Trust Company

Loaning at interest or discounting customer's notes

The Winchender Bank and Trust Company was situated in a Virginia seaport city with a population of 50,000. The bank's business was largely commercial.

In a recent year, the bank adopted the policy of loaning only to its depositors, in order to conserve its credit for the use of those with whom it had had relations in the past and about whom it therefore had more complete knowledge. For several years previously, the policy of the bank had been to discount all unsecured loans to individuals or corporations, and to loan at interest only when borrowers provided collateral, such as securities or merchandise, to guarantee repayment of the loans. The former method was obviously more to the bank's advantage; for example, a depositor with the bank who had made arrangements for a line of credit with it might wish to borrow under the terms of that agreement upon his three months' personal note for $10,000; if the going rate was 6%, the bank in discounting the customer's note would pay him $9,850, and would receive at the end of the three months the $10,000 face amount of the note. If, however, the bank had agreed to loan $9,850 at 6% interest, it would have paid out that amount of money at the start of the arrangement, and at the expiration of the three months would have received $9,850 plus $147.75, or $9,997.75, instead of the $10,000 which it would receive at the expiration of the three months under the discount arrangement.

The cashier of the Winchender Bank and Trust Company recommended to the board of directors that the bank should discontinue its practice of making secured loans at interest, and should insist upon discounting all loans which it made to its customers. He pointed out that this would not only result in a

[1] *Report of the Comptroller of the Currency*, 1926, p. 40. (Figures cover deposits in United States, Alaska, and insular possessions.)

gain to the bank because of the difference in return under the discount and interest arrangements, as illustrated above, but would also save the expense to the bank of billing interest on the loans made, and would enable it at one operation to complete the bookkeeping details of the transaction with the exception of the credit for the payment of the note at maturity.

One of the older directors of the bank objected to this proposal upon the ground that such action, though a generally accepted banking practice, would antagonize customers and cause them to withdraw their accounts.

EXHIBIT I

EARNINGS, EXPENSES, AND DIVIDENDS OF NATIONAL BANKS FOR THE FISCAL YEAR ENDED JUNE 30, 1925*

(In thousands of dollars)

	June 30, 1925 (8,070 banks)
Capital stock	$1,369,385
Total surplus fund	1,118,953
Dividends declared	165,033
Gross earnings:	
Interest and discount	$ 976,458
Domestic exchange and collection charges	16,828
Profits of foreign exchange department	12,573
Commissions and earnings from insurance premiums and negotiation of real estate loans	1,158
Trust department profits	5,951
Other earnings	111,129
Total	$1,124,097
Expenses paid:	
Salaries and wages	$ 218,073
Interest and discount on borrowed money	13,707
Interest on deposits	373,991
Taxes	65,798
Other expenses	127,145
Total	$ 798,714
Net earnings during the year	$ 325,383
Recoveries on charged-off assets	39,686
Total	$ 365,069
Losses charged off:	
On loans and discounts	$ 95,552
On bonds, securities, etc.	25,301
On trust deparment operations	622
Other losses	17,876
On foreign exchange	1,783
Total	$ 141,134
Net addition to profits during the year	$ 223,935

* *Report of the Comptroller of the Currency*, 1926, p. 43.

To these objections the cashier replied that the bank could, in his estimation, prevent any criticism of this new method by agreeing to rebate the full amount of unexpired discount on such loans as were met before maturity, as an evidence of good faith. For example, if the bank discounted a $10,000 six-months' note at 7%, paying $9,650 for it, and the note was taken up at the expiration of three months, the bank under this arrangement would repay to the borrower one-half of the discount taken out at the beginning, and would look for payment not of the full $10,000, but of that amount less $175, or $9,825.

The importance of the "interest and discount" item in commercial banking operations is indicated in a general way by Exhibit 1.

Was it advisable for the Winchender Bank and Trust Company to discontinue its policy of loaning at interest on secured loans?

3. Midwest Company

BANK CREDIT AND OPEN MARKET BORROWING

The Midwest Company, of St. Louis, Missouri, manufactured rubber boots and shoes and sold them to retailers and wholesalers. Sales were $3,000,000 per annum. The company billed goods sold to wholesalers during the first six months of the year as of July 1 and goods sold from July 1 to December 12 as of December 15. To encourage prompt payment, it allowed discounts of 1% per month for payments in anticipation of datings. About one-third of its production was sold to retailers on discount terms of 1%, 30 days. In spite of the company's liberal discounts, however, its accounts receivable from customers usually reached marked peaks in June and December.

At each of those periods of the year, therefore, the company found that though it had paid the expenses of making and selling its products, the buyers had not yet paid for their purchases. The company then could not finance further manufacturing operations except by temporary borrowing of funds, to be paid off when the company's customers had reimbursed it in full. Sales were made on open account, that is, the company's credit department decided how much each customer should be allowed to buy, and goods up to that amount were shipped with the understanding

that the customer would pay according to the terms listed above. No promissory notes or other evidences of debt were required. The company merely carried on its books, as an account receivable, the amount due but not yet received from each customer.

The Midwest Company had deposits in five banks, three of which were in St. Louis, one in Chicago, and one in New York. Against its bank deposits, the company could draw checks payable to the order of itself or of its creditors. The company's relationship to the banks was more than that of a mere depositor, however, for it usually maintained lines of credit which aggregated $350,000 at these banks. This meant, not that the company actually had borrowed $350,000 from the banks, but that the banks would place up to that amount to the company's credit on their books, to be drawn upon just as an amount actually deposited could be drawn upon. This borrowing privilege was sought only when the company was unable to make the actual deposit. As security for the credit advanced in this way by a bank, the company gave the bank a promissory note, usually maturing in 90 days. On such notes the company paid interest at whatever rate was agreed upon between it and the bank. The rate varied from season to season, in accordance with general changes in interest rates. It usually was between 4% and 6%. Part of the arrangement under which the banks established the line of credit was that the Midwest Company always should have on deposit with each bank cash equal to about 20% of that bank's total line of credit available to the company. This necessitated a total average cash balance of $70,000, which was about twice the average amount needed at any one time to finance the company's actual current expenditures.

In the first part of 1924, a commercial paper broker solicited the account of the company. Commercial paper included promissory notes issued by business organizations as a means of securing funds to finance current transactions. Such notes, or paper, were not secured by the pledge of property. When not given directly to banks, they were offered for sale in the "open market" through commercial paper houses or "note brokers." In an open market transaction, the borrower usually made the note payable to the order of himself, endorsed it in blank, and designated the bank at which it would be paid on maturity. The commercial paper broker, having assured himself by rigid analysis that the bor-

rower's credit standing was fully satisfactory, discounted the note at the prevailing interest rate for paper of its type, thus advancing to the borrower the amount of the note less the discount and brokerage charge. Then the broker resold the note, either to a bank or other buyer having funds to invest. Notes of this type usually were of about 4 to 6 months' maturity. Responsibility for paying the notes at maturity rested solely upon the borrowing company.

On account of the seasonal peaks of its accounts receivable, the company used part or all of its lines of bank credit most of the time. It always had been able, however, to liquidate its notes payable at least once each year. The president was confident that if the company borrowed in the open market for some time and called on its banks only for small amounts for short periods, its credit standing both with the banks and with companies from which it purchased raw materials would be improved appreciably.

In order to borrow in the open market, a company had to show a satisfactory balance sheet. In addition, commercial paper brokers usually required a detailed list of receivables from the borrower, in order to ascertain whether its current assets were liquid.

Commercial paper brokers usually tried to distribute their paper in as many localities as possible. If the company sold its notes in the open market through the commercial paper broker, therefore, and paid those obligations promptly, it would tend to build for itself a wide and reliable market for borrowing among the purchasers of its paper, each of whom probably would have investigated the company's financial position. Such a market would safeguard the company's interests in periods of local depression and would facilitate its obtaining any funds it might need for expansion.

Early in 1924 the Midwest Company was able to borrow money at 4½% per annum in the open market on six months' paper. The broker's commission was ¼ of 1%. The bank rate at the time was 5% per annum. Ordinarily banks allowed customers about 2% per annum on average net deposits. The company's balance sheet as of March 31, 1924, was as shown in Exhibit 1.

In April, 1924, the company decided to borrow $350,000 in the open market, to liquidate its current borrowings in the banks,

and to maintain lines of credit equal to the full amount of its open market borrowings.

EXHIBIT 1

BALANCE SHEET OF MIDWEST COMPANY AS OF MARCH 31, 1924

ASSETS			
Cash	$ 58,000		
Accounts Receivable	308,000		
Notes and Acceptances Receivable	2,000		
Merchandise (raw materials, processed and finished goods)	314,000		$ 682,000
Machinery, Equipment, and Trucks			406,000
Goodwill and Patents			1
Prepaid Expenses			15,000
Total			$1,103,001
LIABILITIES			
Current Liabilities			
Notes Payable	$121,000		
Accounts Payable	115,000		
Rubber Drafts and Acceptances Payable	44,000		
Accrued Wages	15,000		
Accrued	12,000		$ 307,000
Capital Stock			
Preferred	$265,000		
Less that held in treasury	31,000	$234,000	
Common		338,000	
			572,000
Reserves			73,000
Surplus			151,001
Total			$1,103,001
Contingent Liabilities	$75,000		

1. Did either type of borrowing in this case increase the national wealth?

2. How did these borrowing policies differ from securing capital through sale of:

a) Bonds?

b) Stocks?

3. Were the Midwest Company's customers benefited by the existence of banking facilities? Were consumers of shoes benefited?

4. Was the credit extended to the Midwest Company by the banks essentially the same as that extended by the company to its customers?

4. Truxford National Bank

PERSONAL FACTORS IN MAKING LOANS

The Truxford National Bank had capital and surplus, including undivided profits, of $3,000,000, and deposits of $10,000,000. The bank did a general banking business and loaned, among others, to companies in the leather, textile, and wool industries. In January, 1925, a firm of wool merchants which had a line of credit of $25,000 with the bank asked for additional credit of $25,000; the firm wished to enlarge the volume of its business.

From his experience, the vice-president in charge of credits for the Truxford National Bank had formulated certain somewhat arbitrary rules which he used as a guide in determining the amount of credit to be extended to wool merchants. In applying these rules, he took into consideration the ability and character of the merchants. The rules were based upon the division of wool merchants into three classes.

The class which the vice-president accorded the highest credit standing consisted of those merchants who had been successful in the wool business for a long period, including years of depression as well as years of prosperity. According to the vice-president's standard, success lay in earning an average annual net profit of about 3% of sales and maintaining an average ratio of current assets to current liabilities of at least two to one. The vice-president believed that such merchants were entitled to lines of credit amounting to from 2 to 2¼ times the capital they themselves had invested in the business. He stated that ordinarily the price of raw wool did not fluctuate over 30% within any 6 months' period. Thus, the normal fluctuations could take place in the value of the wool in the merchant's warehouse without impairing the security of the bank loan.

In the second class, with somewhat lower credit standing, the vice-president placed merchants who had had experience in the wool industry, possibly as employees of wool merchants, and who had been successful while operating as merchants, but who had not shown ability to operate successfully in exceptionally bad years. The vice-president believed that such merchants should be allowed credit equal to from 1 to 1½ times the amount of capital which they themselves had invested in their businesses.

In the third class were wool merchants who had been unsuccessful in the operation of their firms or who had been wool merchants for less than five years. The vice-president usually allowed a firm of merchants in the third class a line of credit which, with credit allowed them by other banks, gave them a total line which was less than the amount of capital which they had invested in the business, frequently only one-half of that amount.

Blake & Turnbull was a firm of wool merchants whose members, 56 and 42 years of age, respectively, had been engaged in buying and selling wool since they first entered business. The price decline of 1920 had caused them heavy losses. In 1921 the Truxford National Bank and the Osgood Trust Company had saved the firm from bankruptcy by their each extending it a line of credit of $25,000. The same credit had been extended during 1922, 1923, and 1924. During short periods, however, the firm's borrowings had been as much as $35,000 from each of the two banks. In January, 1925, Blake & Turnbull asked the Osgood Trust Company, as well as the Truxford National Bank, to increase the line of credit extended to $50,000.

Blake & Turnbull's gross sales had been: $356,522 in 1921; $681,002 in 1922; $728,230 in 1923; and $1,056,774 in 1924. The firm's comparative balance sheet as of December 31 for the five years 1920 to 1924 is shown in Exhibit 1.

On December 31, 1924, the firm's inventory of raw wool, in dollars, was higher than it had been at any previous time. The Truxford National Bank believed that the current high price of wool was partially responsible for this and did not consider the inventory excessive. For the years 1921, 1922, 1923, and 1924, the firm's average net profits had been about 2.54% of sales. Its current ratio, however, had been decidedly less than two to one. The vice-president of the Truxford National Bank was aware that according to the rules he ordinarily followed, the condition of Blake & Turnbull, as indicated by the balance sheets, did not justify his bank in conjunction with the Osgood Trust Company in extending credit which was equal to twice the amount of money invested in the business by the members of the firm. The firm's failure in 1920 would place Blake & Turnbull in the third class of wool merchants recognized by the vice-president. Its successful operation during the poor year of

EXHIBIT 1

COMPARATIVE BALANCE SHEET OF BLAKE & TURNBULL, DECEMBER 31, 1920 TO 1924

	Dec. 31, 1920	Dec. 31, 1921	Dec. 31, 1922	Dec. 31, 1923	Dec. 31, 1924
ASSETS					
Cash	$ 8,065	$ 7,135	$ 10,501	$ 22,222	$ 13,294
Accounts Receivable	2,811	30,562	40,719	26,172	159,391
Merchandise	36,666	24,082	71,247	56,152	72,735
Quick Assets	$47,542	$61,779	$122,467	$104,546	$245,420
Machinery and Fixtures	613	613	613	3,749	3,172
Deficit	13,372	4,057			
Total	$61,527	$66,449	$123,080	$108,295	$248,592
LIABILITIES					
Bills Payable for Borrowed Money	$55,000	$36,000	$ 38,000		$ 70,000
Accounts Payable	6,527	30,449	54,204	$ 77,430	120,214
Current Liabilities	$61,527	$66,449	$ 92,204	$ 77,430	$190,214
Net Worth			30,876	30,865	58,378
Total	$61,527	$66,429	$123,080	$108,295	$248,592
Net Quick Assets	$47,542	$61,779	$122,467	$104,546	$245,420
Current Liabilities	61,527	66,449	92,204	77,430	190,214
Excess Quick Assets			30,263	27,116	55,206
Ratio	.77	.94	1.33	1.35	1.29

1923, however, led the vice-president to place it in the second class. The vice-president believed that, judged by his customary standards, the firm was entitled to total bank credit of $70,000.

The vice-president was convinced, however, that the firm's improvement from December 31, 1920, to December 31, 1924, demonstrated exceptional ability and industry on the part of the management and warranted consideration. On December 31, 1920, the balance sheet of the firm showed it to be insolvent with a deficit of $13,372. The personal resources of the partners at that time had not been sufficient to meet the firm's debts. The partners had asked that their credit be extended until such a time as they could repay the banks in full. Mr. Blake and Mr. Turnbull, each of whom had been drawing a salary of about $8,000 annually, had reduced their salaries to $50 a week each. They also had reduced their office expenses to a minimum and during the next four years worked industriously to put their firm in a strong financial position.

The vice-president decided that the character of the partners, as demonstrated by their attitude in 1920, and their industry and ability as shown by the improvement of the firm in the preceding four years, justified the Truxford National Bank and the Osgood Trust Company each in extending the firm credit of $50,000. The vice-president of the Truxford National Bank conferred with the vice-president of the Osgood Trust Company and both agreed to extend the credit asked for by Blake & Turnbull.

Should the bank have incurred the expense of making analyses of customers' business abilities?

5. Lindley, Brandt & Flint

Investments for a National Bank

As the result of discussion concerning investment policy, between the president and other directors of a national bank located in a manufacturing town with a population of 50,000, it was agreed to seek the advice of an investment banking firm.

As a so-called "country bank," the bank was legally required to keep on deposit, with the district Federal Reserve Bank, a reserve equal to 7% of its demand deposits. In addition, the bank normally had from $350,000 to $450,000 invested in securities as a "secondary reserve." Inasmuch as this reserve might be needed as cash in periods of panic or severe depression, the bank president endeavored to hold it in liquid securities. Normal fluctuations in demand for funds ordinarily were provided for by purchases of commercial paper or short-term notes.

For eight years the president had endeavored to eliminate second-grade and worthless securities acquired by incompetent predecessors. One of the directors who had maintained that safety lay in diversification had been so successful in forcing his opinions upon the others that $432,900 of the institution's resources were invested in 214 different securities. Another director, who had been overcautious, had insisted that low-yield bonds constituted the only safe investment for a bank.

In November, 1922, during a conversation between a representative of Lindley, Brandt & Flint, investment bankers, and the bank president, the latter explained the institution's financial his-

Exhibit 1

Abstract of Report of Condition of National Banks in the United States on September 15, 1922

(In thousands of dollars)

	Sept. 15, 1922 8,240 banks
Resources	
Loans and discounts*	11,236,025†
Overdrafts	12,141
Customers' liability account of acceptances	171,190
United States Government securities owned	2,402,492
Other bonds, stocks, securities, etc.	2,289,782
Banking house, furniture, and fixtures	459,020
Other real estate owned	67,789
Lawful reserve with Federal Reserve banks	1,232,104
Items with Federal Reserve banks in process of collection	418,923
Cash in vault	331,951
Amount due from national banks	1,063,695
Amount due from other banks, bankers, and trust companies	299,541
Exchanges for clearing house	614,771
Checks on other banks in the same place	54,623
Outside checks and other cash items	63,112
Redemption fund and due from U. S. Treasurer	36,656
Other assets	172,284
Total	20,926,099†
Liabilities	
Capital stock paid in	1,307,122
Surplus fund	1,042,197
Undivided profits, less expenses and taxes paid	539,047
National bank notes outstanding	726,789
Due to Federal Reserve banks	26,472
Amount due to national banks	1,031,648
Amount due to other banks, bankers, and trust companies	1,582,444
Certified checks outstanding	164,427
Cashier's checks outstanding	208,991
Demand deposits	9,270,378
Time deposits (including postal savings)	4,169,220
United States deposits	145,182
Total deposits	*16,598,762*
United States Government securities borrowed	38,104
Bonds and securities (other than United States) borrowed	2,990
Bills payable (including all obligations representing borrowed money other than rediscounts)	181,765
Notes and bills rediscounted (including acceptances of other banks and foreign bills of exchange or drafts sold with indorsement)	247,559
Letters of credit and travelers' checks outstanding	6,639
Acceptances executed for customers and to furnish dollar exchange less those purchased or discounted	165,715
Acceptances executed by other banks	17,654
Liabilities other than those stated above	51,756
Total†	20,926,099†
Liabilities for rediscounts, including those with Federal Reserve banks†	

* Includes customers' liability under letters of credit.

† Beginning March 10, 1922, rediscounts are included in loans and discounts and totals of resources and liabilities.

tory. A loss had been incurred in 1903, which had resulted in an overdiversification. He stated that to correct this condition he had decided to sell all the poorer securities, and thereafter to buy only in lots of 5,000 or over. Pursuance of this policy could be deferred, if necessary, in order to derive financial advantage. The directors were opposed to municipal bonds, largely on the ground of low income. Some money was kept in commercial paper in blocks which yielded about 4¾%.

The occasional purchase of acceptances was favored, but the president considered that they ordinarily were not profitable. Acceptances were of two types: trade, and bankers' acceptances.[1] When the Federal Reserve Act was passed in 1913, trade acceptances were little used in the United States. Despite various attempts to increase their use, trade acceptances failed to become of great importance in American banking operations.

A list of the bank's investments was given to Lindley, Brandt & Flint for suggestions. The following letter was written to the bank as a result:

November 22, 19—

Dear Sir:

We have been studying your list of bonds since our salesman sent it in to us recently and we take pleasure in forwarding you a few comments which we hope may be helpful to you. We have indicated in the margin of your list the comparative ratings of the various items, these classifications being, of course, rather rough, but expressing in the rating the comparative standing of the bonds.

We find that your investments may be classified as follows:

U. S. Government bonds	$ 50,000
Railroad bonds	169,000
Industrials	87,000
Municipals	45,000
Canadian	32,500
Foreign bonds	14,000
Public utilities	22,000
Street railway	12,400
Miscellaneous	1,000
Total	$432,900

[1] A trade acceptance is a draft or bill of exchange, drawn by the seller on the buyer of goods sold, and unconditionally accepted in writing upon the face of the bill by the buyer. The accepted draft is usually payable at the buyer's bank. The seller, upon obtaining the acceptance, may hold it until maturity, discount it at his bank, or sell it in the open market. If the time before maturity of an acceptance is not greater than 90 days, banks which are members of the Federal Reserve System may rediscount the acceptance with the district Federal Reserve Bank. A bank acceptance is a bill accepted by a bank rather than by a business firm. Such acceptances are used largely in foreign-trade transactions by banks wishing to aid the financing of imports and exports, or to transfer funds from one country to another.

As a combination, this investment at prevailing prices yields you a return of approximately 5.45%.

Our first comment on your list would be its overdiversification. With such a multitude of items the difficulty of following the market is much greater than if the list were made up of a few good standard investments.

Secondly, we feel that municipal bonds which you hold to the extent of $45,000 are, under present conditions, not an advantageous investment for a national bank. The return from these bonds is small, because of the fact that their tax exemption makes for them a special market among holders who wish to escape surtax and, consequently, they sell out of line.

Thirdly, your list includes various items of very high grade railroad bonds, such as are legal investments for savings banks and which also have a special market and sell so high as to yield less than a national bank may obtain with safety. Such bonds, for example, as Atchison General 4s, 1955, Chicago Northwestern 4s, 1987, Southern Pacific 4s, 1955, and so forth.

Fourthly, there are some items, such as foreign bonds and street railway bonds, which might well be disposed of even at a considerable loss in favor of securities with a more promising future.

We have prepared a schedule for the investment of $400,000 for a national bank, including specific items. It might be that you would use this schedule as a guide in rearranging your investments, and we have so selected the bonds that the combined yield, excluding government bonds, is 5.55% and, including them, 5.25%. All the items in our list are of nationally known companies and each bond enjoys an active market. We have divided the selection between long and short maturities in such a proportion as to afford a comfortable amount of sure liquid securities.

In approaching a list such as yours, with an idea of rearranging it in a more compact and easily followed selection, it may be well to mention that, should you sell some of your present holdings in favor of others, the fluctuations of the market and the prospects for the immediate future are of secondary importance, inasmuch as bonds may be substituted for other bonds as advantageously when the market is low as when it is high. It is only when one wishes to sell bonds with the idea of buying them back cheaper that one needs hesitate on the score of probable market action.

It appears at the present time that rising currency prices attendant on rising interest rates are apt to be accompanied by falling bond prices. How long this condition will last depends entirely upon the length of the period of high interest rates and the extent to which this inflation will go.

The general feeling appears to be that, while not drastic, this readjustment of prices is likely to continue for a few months and, until money shows a distinctly easier tendency, a resumption of

advancing prices in the bond market may not be looked for. Therefore, it would seem to us that, if you are contemplating selling out of your long bonds in favor of short investments, you would presumably gain nothing by waiting; but, if you are merely figuring on making exchanges on your list and holding to about the same amount which you already hold, the course of the market in the next few months is not material, as we suggested above.

We trust these comments may be of interest to you and hope to have the pleasure of talking the matter over with you in person if you should have the opportunity of coming to Chicago. In the meantime, please consider our facilities at your disposal.

Yours very truly,
LINDLEY, BRANDT & FLINT
(Signed) E. H. LINDLEY

SUGGESTIONS FOR INVESTMENT

		Approximate Yield
	$100,000 UNITED STATES GOVERNMENTS	
$50,000	United States Treasury 4¼s, 1952	4.27
50,000	Third Liberty Loan 4¼s, 1928	4.25
	Average yield	4.26
	$75,000 HIGH-GRADE RAILS	
$10,000	Atchison, Topeka & Santa Fe Ry. Gen. 4s, 1995	4.60
10,000	Great Northern Ry. Co. 5½s, 1952	5.20
10,000	New York Central R. R. 5s, 2013	5.15
10,000	Northern Pacific Ry. Co. 6s, 2047	5.45
10,000	Southern Pacific R. R. 1st 4s, 1955	4.80
5,000	Atlantic Coast Line R. R. 7s, 1930	5.90
5,000	Chicago & Northwestern Ry. 7s, 1930	5.80
5,000	Pennsylvania Railroad 6½s, 1936	5.50
5,000	Union Pacific R. R. conv. 4s, 1927	5.25
5,000	Baltimore & Ohio Prior Lien 3½s, 1925	5.25
	Average yield	5.21
	$50,000 SECOND-GRADE RAILS	
$10,000	Baltimore & Ohio conv. 4½s, 1933	6.60
10,000	Chesapeake & Ohio conv. 5s, 1946	5.35
10,000	Southern Railway Co. 6½s, 1956	6.40
10,000	Chicago, Rock Island & Pacific 1st 4s, 1934	6.05
10,000	St. Louis-San Francisco Prior Lien 6s, 1928	6.00
	Average yield	6.08
	$50,000 HIGH-GRADE INDUSTRIALS	
$10,000	United States Steel Sinking Fund 5s, 1963	5.25
10,000	American Smelting & Refining 5s, 1947	5.50
10,000	Bethlehem Steel 1st 5s, 1926	5.25
10,000	Westinghouse Electric & Manufacturing 7s, 1931	5.50
10,000	Atlantic Refining Co. deb. 5s, 1937	5.20
	Average yield	5.34
	$25,000 SECOND-GRADE INDUSTRIALS	
$ 5,000	American Sugar Refining Co. 6s, 1937	5.70
5,000	American Agricultural Chemical Co. 7½s, 1941	7.15

		Approximate Yield
$ 5,000	Chile Copper Co. conv. 6s, 1932	6.60
5,000	United States Rubber 1st 5s, 1947	6.00
5,000	International Paper Co. 1st 5s, 1947	6.25
	Average yield	6.54
	$25,000 CANADIANS	
$ 5,000	Dominion of Canada 5s, 1926	5.10
5,000	Dominion of Canada 5s, 1952	5.05
5,000	Province of Ontario 5½s, 1930	5.50
5,000	Province of Manitoba 6s, 1925	5.50
5,000	Province of British Columbia 5s, 1939	5.50
	Average yield	5.33
	$50,000 PUBLIC UTILITIES	
$10,000	American Telephone & Telegraph 5s, 1946	5.20
10,000	Duquesne Light Co. 6s, 1949	5.70
10,000	Western Union Telegraph 6½s, 1936	5.60
10,000	Pacific Gas & Electric 5s, 1942	5.70
10,000	Southern California Edison Co. 5½s, 1925	5.10
	Average yield	5.53
	$25,000 EQUIPMENTS	
$ 5,000	Pacific Fruit Express 7s, 1930-1935	5.10
5,000	New York Central Equip. 7s, 1930-1935	5.10
5,000	Chesapeake & Ohio Equip	5.15
5,000	Louisville & Nashville Equip	5.10
5,000	Chicago & North Western Equip.	5.10
	Average yield	5.11
	Total average yield	5.25
	Excluding Liberties	5.55

The condition of the 8,240 national banks as of September 15, 1922, was as shown in Exhibit 1[1], on page 214.

1. Was it incumbent upon this bank to study the investment market carefully?

2. Should the recommendations of the investment banking firm have been accepted by the bank?

6. Farmers' Exchange Bank

AGRICULTURAL LOANS

On November 1, 1919, the Farmers' Exchange Bank, located in a middle-western city of 150,000 inhabitants, had deposits of about $5,000,000. The assets against which they constituted a claim were classified as follows:

Cash, including checks in process of collection	15%
Commercial paper, maturing within six months	30

[1] *Annual Report of the Comptroller of the Currency*, December 4, 1922, p. 18.

Notes secured by first mortgages, 50% maturing within one year	13%
Farmers' notes secured by mixed chattels, maturing within four months	17
Unsecured customers' loans	25
Total	100%

The capital and surplus of $175,000 was invested in the bank building and equipment, and in long-term bonds. The latter, which had been held over a period of years, had depreciated in value because of rising interest rates and could not be liquidated without a 5- to 10-point loss.

At the November meeting of the board of directors, it was deemed advisable, because 50% of the bank's loans matured during the next six months, to determine upon a general policy to govern the lending and investment operations of the cashier. There was an active demand for loans by ranchers and farmers located in the vicinity. They were using the proceeds to make payments on land purchases, to buy farm machinery and equipment, including automobiles, and to obtain general farm necessities such as live stock. Many competing banks which currently did not have funds to invest bought farmers' notes for resale, in order to make a brokerage profit. In most instances these loans were secured by chattel mortgages on herds of cattle, herds of sheep, or mixed chattels, consisting of horses, harnesses, farm implements not otherwise pledged for debt, and miscellaneous equipment.

The paper secured by beef herds usually was sold by the bankers to organizations, commonly known as cattle loan companies, located at the terminal live-stock markets. These companies specialized in loans to cattle breeders and feeders. The other loans were sold to bankers, and in a few instances to investors in the vicinity and in neighboring states. The notes purchased by the cattle loan companies yielded 6% or 7% interest. The rate depended upon the borrower's equity in the herd and the balance maintained by the negotiating banker with the cattle loan company at the terminal market. The cattle loan companies, in turn, sold these notes either with or without endorsement to eastern banks. In November, 1919, the latter, as well as private investors, were buying this paper on a 7% basis, although this was fully 1% higher than the rates which

had prevailed a year before, when money had been less in demand by such borrowers, and more plentiful among bankers.

The notes secured by mixed chattels commonly were referred to by bankers as "horse paper," and bore a rate 1% higher than that on "cattle paper." At the same time, the cattle paper yielded a 1% higher rate than could be secured upon the best names offered on the market by commercial paper brokers. Commercial paper, however, was of six months' maturity as a rule, whereas the cattle and horse paper maturities were never less than nine months and in many cases were twelve months. Since these differentials in rates existed, the cashier was criticized for keeping 30% of the bank's loans in commercial paper at 6%, when an additional 2% could be secured on horse paper. A few directors deemed that the bank was in an unnecessarily liquid condition.

In summing up his opinion one of the directors spoke as follows:

> The past three years have seen unprecedented earnings on the farms of states which look to this city for banking service. Interest and taxes have, in the main, been paid promptly, and the reason is not hard to find. In the three years 1914-1917 the total gross income of the farm population jumped more than 100%, reaching a figure of approximately sixteen billions in 1917, and rising to still higher levels in 1918 and 1919. Thus the gross earnings of the farms this year will probably be more than double the amount of any prewar year. Farming seems to have moved permanently to a higher level of earning power; permanent because, since 1900, population has been increasing more rapidly than the acreage of improved land, and urban population has been increasing more rapidly than rural. We have seen the land in eastern Colorado we used to think waste, fit only for prairie dogs and jack rabbits, developed into a prosperous wheat-growing section through the development of dry farming methods. The products of this poorer land are needed to produce the increased amount of food required by our population. We are simply letting 2% on about half of the bank's loanable funds get away from us, and swell the profits of eastern institutions which themselves ought to be financing the industries whose commercial paper we have been purchasing.

He advocated, therefore, the acceptance of applications for the renewal of the maturing horse paper, and the purchase of new paper of the same character with the proceeds of the maturing commercial paper.

The cashier then stated his position:

Regardless of the form of the transaction, the bank, through its purchase and renewal of chattel mortgage paper, is actually financing the equipment or plant of the borrowing farmers. Obviously the indebtedness cannot be liquidated out of current production without exceptional and now quite clearly unanticipated circumstances as to crop yields and crop prices. In short, the bank is offered 2% more interest on "horse paper" than upon commercial paper, and to obtain this must take paper of longer maturity and less liquid security. Because this class of paper was a good purchase early in the year—when demands from commercial borrowers were low, and the rate on customers' loans was 5½%—it did not follow that it was good policy to renew that class of loans as they matured. On the other hand, pressure should be brought to bear upon all borrowers who have given notes secured by chattel mortgages or such miscellaneous assets as horses; and the avails thereof should be put into commercial paper of the highest grade to be obtained, regardless of rate. In any event the bank should not purchase more notes of this class, thereby making more loans which were essentially advances of fixed capital. The reason for this is that a large demand for accommodation is to be expected from our own customers during the months ahead, and because of the outstanding commitments to them, we should get into an even more liquid condition in anticipation of that possibility.

1. What should have been the bank's loan policy in November, 1919?

2. If the bank had been located in the ranch country, should the policy have been different?

XV

BANKING SYSTEM OF THE UNITED STATES

Black, 678-682; Bye, 208-225; Clay, 169-194; Edie, 562-578; Ely, 270-290; Fairchild, I, 446-475; Gide, 394-402, 413-440, 446-450; Rufener, 558-581; Seager, 358-377; Seligman, 521-543, 546; Taussig, I, 354-387; Turner, 305-330.

1. Suffolk Bank of Boston

BANKING PRACTICE WITH NOTE ISSUE

The Suffolk Bank was chartered on February 10, 1818, receiving the powers of receiving money on deposit, loaning it, buying and selling specie and bills of exchange, and issuing its own notes to depositors and borrowers.[1] The capital was fixed at $500,000, and the liabilities, exclusive of sums due on account of deposits, were limited in debts by bond, bill, note, or other contract to twice the amount of its capital, and the loans were subject to the same limitation. The directors were liable for any excess.

Stockholders were liable in a sum equal to the amount of stock held by them for losses arising from mismanagement by the directors and also were liable, proportionately, for the redemption of the bank's notes at the expiration of the charter. The charter was to continue to October, 1831. The bank opened in April, 1818, and engaged both in discounting domestic commercial paper[2] and in transacting exchange with foreign countries.

Notes issued by most banks located outside of Boston could

[1] A bank note is a bank's promise to pay money on demand to the bearer of the note. This money may be in gold, but in modern practice gold is not usually demanded, because paper notes are more convenient for most transactions. Like a check drawn by a depositor, a bank note is a claim upon a bank's cash reserve.

[2] By "discounting commercial paper" is meant the action of a bank when it buys promissory notes or bills of exchange arising in the course of commercial transactions. The bank thus obtains from the drawer of the note a promise to pay a definite sum in the future, usually with interest at a specified rate. In return for advancing money or credit on such a note, the bank deducts from the sum advanced an amount representing interest for the period intervening before the note becomes due.

be purchased in Boston at less than their face values. In February, 1819, the notes of such banks were being purchased by a bank competing with the Suffolk Bank. That competitor returned the notes to the banks of issue for payment in specie.[1] This seemed profitable and the Suffolk Bank decided to conduct similar transactions, although there was a decrease in the profits because the discounts were lessened through the competition for the purchase of outside notes. These notes were abundant, however, and their presence in Boston greatly hampered the circulation of notes of Boston banks.

Banks in New England, as elsewhere in the United States at that time, were often regarded as speculative ventures. Banking laws varied markedly between states; there was little effective control or supervision. Many of the New England banks outside Boston had been formed for purposes of speculation, and issued notes in the hope that their redemption would be long delayed. Bank notes were not uniform in appearance, with the result that counterfeiting was extensive. Commerce was made difficult by the variety of bank notes in circulation at varying rates of discount from their face value. A merchant or bank accepting such notes was forced to appraise their value as well as their genuineness.

At the suggestion of the Suffolk Bank, five other Boston banks agreed in 1824 to contribute $300,000 in all to a fund which should be used to buy and return for payment all notes of outside banks, available in Boston. In this way, it was planned to expand the proportion of notes of the Boston banks and to improve the effectiveness of the general note circulation. The Suffolk Bank became the agent for the negotiations; in 1826 its capital was increased to $750,000. This Suffolk plan of redemption was developed continuously and by 1831 was firmly established. The exchange operations with foreign countries, meanwhile, had been practically discontinued.

The Suffolk Bank's charter was renewed in 1831. In 1835 and 1836, when it was evident that the charter of the second United States Bank could not be renewed at its expiration in 1836, the number of Massachusetts banks increased by 32. By 1837 the number was 321 as contrasted with 169 in 1830.

[1] Banks redeem their own notes by paying in cash the full face value of the notes to bearers presenting the notes to the banks for redemption.

Subsequently the Suffolk redemption system grew to such proportions that the bank was acting as an exchange agent for numerous banks throughout New England, each of which maintained balances to redeem its own notes. For the banks which maintained balances for that purpose, the Suffolk Bank redeemed notes at their full face values and allowed overdrafts, except in periods of stress. On the overdrafts, interest was charged. The notes of banks which did not enter this arrangement, however, and which did not have suitable redemption agencies in Boston were presented by a Suffolk Bank messenger for specie payment at the banks' counters. The daily redemptions amounted to about $400,000, and restrictions at last were imposed, limiting each bank's total redemption for one day to one-half its permanent deposit. This plan served substantially to strengthen New England banking operations, whereas the notes of most private banks in other parts of the United States were circulating at substantial discounts.

The suspension of specie payments following the crisis of 1837 stopped all coercion on the part of the Suffolk Bank to maintain the value of New England note issues, though many banks continued to redeem notes through it. It was learned that the notes of these banks circulated throughout the United States and in many places commanded premiums, while the banks which no longer had the redemption agreement secured only local circulation for their notes. A number of weak banks had overdrawn their redemption accounts, and settlements were made with them upon the best terms obtainable.

By 1857, annual redemptions effected through the Suffolk Bank amounted to $400,000,000; the redemption department had been given additional space and had 70 clerks; the accounts of 500 banks were handled at an expense of about $167,700 yearly.

In 1855, country banks, because of the profits obtainable from redemption operations and opposition to the Suffolk Bank, had applied to Massachusetts to charter a Bank of Mutual Redemption, to compete with the Suffolk Bank in its redemption transactions. The charter was granted in 1858, and about one-half the New England banks transferred their deposits from the Suffolk Bank to the new bank. Each of the two institutions then redeemed notes for its correspondent banks. Finally in its legislation, Massachusetts gave definite support to the principle

of note redemption by forbidding any bank to pay out any notes except its own.

A plan for establishing a system of national banks was presented in Secretary of the Treasury Chase's report of December, 1861. He urged the need of transferring from the issuing state banks to the government the process of issuing a paper currency. Two methods were suggested: either the issue of United States notes in place of bank notes, or a national system for the issue of bank notes to be redeemed by the issuing banks, but secured by the pledge of United States bonds. The measure was not adopted, and events soon made imperative some means of providing funds for the rapidly accumulating Civil War debts.

When the National Banking Act of 1863 was passed, there was an immediate difference of opinion as to the advisability of applying for a charter. In general, the New England currency situation had been sound through the operation of the Suffolk redemption system, and the Suffolk Bank's profits had been satisfactory.

On July 3, 1864, however, a completely amended law was passed which provided for redemption of national bank circulation at agencies in specified principal cities; the capital requirement for each national bank was increased and terms of payment for shares made more strict. Conversion of state banks into national banks was facilitated; the nature of the associations more closely defined; the secretary of the treasury was given power to select banks to be depositories of public money, except customs receipts, on deposit of United States bonds as securities. Federal taxes were placed upon the capital, deposits, and circulation of national banks, and the states were given authority to tax bank shares.

The advantages of national banking came to be recognized more clearly. Those banks were regarded as important agencies for the placing of new government loans; their circulation was needed and was likely to facilitate the return to specie payments. Paper money unsecured by specie was clearly undesirable. Banks in the various states were numerous; their notes varied widely in denomination and appearance, and most of them were circulated at discounts varying from small fractions to as much as 40%. There were said to be more than 1,000 different kinds of such notes which business men must examine closely in the

ordinary course of trade. There was an increasing advocacy of a uniform national currency, redeemable by the appointed agents, to lend confidence to business transactions and aid in the detection of counterfeit bills. It also was becoming clear that two systems of banks, one national, and one state, probably could not exist; prohibitory Federal taxation of state bank notes was predicted.

After the creation of the Bank of Mutual Redemption, the Suffolk Bank had come to depend more fully upon its commercial operations than upon redemption activities, however; and in order to continue its commercial operations and to assure itself of the benefits of the national banking law, the bank decided to apply for a Federal charter, which was granted on January 1, 1865, creating the Suffolk National Bank. Until that date, the bank's annual dividends had averaged 11½%. A dividend of $128 per share was paid at the time of reorganization, and one share of new stock was issued to replace each share of the old stock; stockholders were allowed to apply for additional shares, and the capital was fixed at $1,500,000.

1. What was the effect of the action by the Suffolk bank in returning the notes of country banks upon the ability of the latter to increase their loans?

2. What was the source of the profits of the Suffolk bank in carrying on the system of redemptions?

3. Wherein did the workings of the system resemble the work of a clearing house? Wherein were they different?

4. Why did Massachusetts forbid a bank to pay out any notes but its own?

2. Trinity National Bank

Choice between charter as national bank and as state bank

In a large midwestern city there were 4 national banks, 7 trust companies, and several savings banks. The industries in the surrounding territory had grown rapidly, and some of them had become businesses of national repute. Many small manufacturing companies had been established to supply the needs of these industries, and subsidiary industries dependent upon them had developed.

Only four new banks had been established in this city within

21 years, although, as a result of the unusual development of industry, the city was gradually becoming a large financial center. The growth of the large interests operating in the community had made it necessary for them to extend their banking connections, and many of them had sought banking accommodation in New York. A number of the executives of the local banks, therefore, considered that it would be an advantage to the city to have a large bank. Consequently, plans were undertaken for a consolidation of four of the larger banks, the Trinity National Bank, the First National Bank, the Manufacturers' Trust Company, and the Union & Traders' Trust Company. The difference in size between these banks was not great. The oldest of the four was the First National Bank, which had had an enviable history since 1847 and which was one of the most conservative and thoroughly sound institutions. Plans were developed for the consolidation, and satisfactory arrangements for depositing the capital stock of members and the capitalization of the new bank were completed.

Perhaps the most important question in connection with the consolidation was whether the new bank should be operated under a state charter as a trust company or under a national charter as a national bank. Under laws then in force a state institution had a free hand in operating branches, while a national bank, in order to operate branches, was required to take over a bank already in operation. It was not the plan of the officers in charge of the consolidation, however, to embark on a program of a large number of branches. Any branches which the bank would establish, it was agreed, must be of such size and earning power as to be able to support a high grade of branch manager and his assistants, and be equipped to render complete banking service to the section in which they were established. Thus it seemed probable that for several years the new bank would not be seriously affected by the restrictions imposed by the national banking plan. Furthermore, it was probable that the powers of national banks would be enlarged gradually and that in the course of years they would be empowered in one way or another to operate branches more nearly in the fashion of trust companies. One nonbanking phase of state-chartered trust company operation was that of administering trust estates for living persons who desired to have their investments cared for by corporate institutions. Another important function was that of acting as executor of the estates

of decedents who specified in their wills that their estates should be managed by trust companies in the interest of the beneficiaries.

There were many opportunities for a large bank to engage in numerous remunerative activities, such as the flotation of security issues, taking a part in promising promotions, and similar distinctive extra-banking activities. Ordinarily a state trust company charter enabled a bank to engage in these newer activities of banking institutions to a greater extent than did a national bank charter. The following summary is by an officer of one of the trust companies involved in the consolidation in question:

> Perhaps the subject would be better stated as "The comparative advantages of state and national charters for banks," and I will take the liberty of discussing the subject from that angle, the advantages or disadvantages not arising from the national or state charters and powers themselves.
>
> The most important advantages of state as against national charters seem to me to be:
>
> 1. The better situation of state banks for taking and administering trust business;
>
> 2. The fact that state banks are usually empowered to maintain branches where national banks are not, except in limited instances;
>
> 3. The fact that a so-called stock dividend is not permitted under the National Banking Act and usually is under the state laws;
>
> 4. The fact that state banks ordinarily have somewhat broader powers in the matter of loans, savings accounts, safe deposit, and other fiduciary powers.
>
> As against these advantages, which usually follow state charters, national banks have certain advantages of their own, among which are the ability to issue circulating notes, to accept certain Federal deposits which are not available to state banks, and the somewhat less tangible thing, that they are supposed to enjoy, in the minds of a great many people, a psychological advantage arising from either or both the use of the word "National" in their name or from the Federal supervision which is associated with the idea of the national bank.
>
> Examination of state banks is now practically joint examination where the state bank is a member of the Federal Reserve System. The Reserve Board examiners work with the state examiners, and the net result is perhaps a more complete examination than would be had by a national bank.
>
> It has seemed to me and to my associates that the advantages very largely preponderate in favor of the state bank in this day when, by

membership in the Federal Reserve System, the coordination of the system may be had.[1]

In conclusion, I am very firmly of the opinion that state banks have all of the real powers and goodwill which national banks can have, and in addition have many which national banks have not, and further

[1] State banks conforming in size and type of business to the requirements of the Federal Reserve Act could become member banks by subscribing for stock in the local reserve bank, to the amount of 6% of the applying bank's capital and surplus. In regard to such membership, the Secretary of the Treasury said, in his *Annual Report* (pages 10-13) for the year ended June 30, 1926:

> The Federal Reserve System is a most important element in the continuation of prosperity in America and will be indispensable again in any financial crises which may come. Its continued operation, however, depends upon its representing the bulk of the banking resources of the country and its power to retain these resources in time of emergency.
>
> Membership in the Federal Reserve System is made up of all the national banks, which are required by law to be members, and of such state banks as may voluntarily join the system. At present the membership consists of all the national banks, about 8,000 in number, and 1,400 out of 20,000 state banks. The combined resources of member banks represent nearly two-thirds of the banking resources of the country. If the system becomes one composed principally of voluntary members, the system, the Government, and the country might be embarrassed in time of emergency by the withdrawal of membership and the depletion of the banking resources subject to mobilization. It seems to me, then, desirable that Congress should keep the national banks, which are always members of the Federal Reserve System, upon a reasonable equality of powers with the state banks, so that the national banks may continue to meet the competition of state banks and survive.
>
> The national bank is the creature of the Federal Government; the state bank the creature of the particular state in which the bank is located. National banks and state banks exist side by side in the various states; and if in any state the law of that state grants a power to the state bank which the laws of Congress deny to its neighbor, the national bank, and if this power be a valuable business privilege, the tendency is for the state bank to grow at the expense of the national bank until ultimately the stockholders of the national bank abandon their national charter and take out a state charter. With the development of banking, some states have increased the powers of their banks, and in some particulars Congress has also liberalized the National Bank Act to equalize privileges between the two classes of banks. For example, under certain conditions a national bank may exercise trust powers in a state where like privileges are given to state banks. This is fair to each and is a policy which should be followed by Congress, except in such cases as the privilege granted to a state bank is in the opinion of Congress unsound from a banking standpoint.
>
> . . . . . .
>
> . . . In the few years of their existence the Federal Reserve banks have demonstrated beyond any doubt their value to the country. During these years the country has come safely through a great war, not only without a panic but with a minimum of strain upon our financial structure. The credit for this achievement is due in large measure to the steadying influence exerted by the Federal Reserve System.
>
> It is difficult to imagine how this could have been accomplished with the archaic banking system under which the country operated prior to the passage of the Federal Reserve Act. That system consisted of a network of independent banks, with scattered and immobile bank reserves and a credit inelasticity which rendered it totally inadequate to the country's needs. The old banking system was so constituted that it operated to aggravate

let me say that the successful development of the Federal Reserve Bank, which is the greatest step forward in the financial history of the country, has been so universally recognized that the thing that counts is no longer the sign in your window, "Organized under the National Bank Act," but the newer one, "Member of the Federal Reserve System."

Discussing the subject of state and national banks, the Comptroller of the Currency, who by law has general supervision of the national banking system, said in his *Annual Report* of December 10, 1926:

Last year I directed your attention to the fact that for the period from October 21, 1923, to October 17, 1925, 166 national banks left the national system to engage in the banking business under state charter, carrying with them aggregate resources of $566,600,000. It is with regret that I must now report that from October 17, 1925, to October 1, 1926, 87 national banks went into the state systems, with aggregate resources of about $560,000,000. During the same period 29 state banks nationalized, with aggregate resources of about $235,000,000.

A comparison of the defections from the national system with the additions to it from the state systems does not, however, present an adequate view of the situation. Each time a national bank abandons its charter, the Federal Government loses an instrumentality through which it maintains a direct control over banking policy and banking operations. Each withdrawal constitutes the loss of a unit in the basic membership of the Federal Reserve System. These widespread desertions from the national system are clearly indicative of the difficulty which national banks find in operating under their present charter powers. The fact that a greater or less number of state banks for one reason or another take out national charters in no way compensates

rather than to relieve panic symptoms in any financial emergency. National banks could issue currency only when secured by Government bonds and were consequently unable to increase the currency in times of stringency. State banks could expand their credit facilities only by borrowing from the larger metropolitan banks, with the result that all loans in the end converged on New York. Instead of a coordinated system of banks with a common reservoir of credit, we had a large number of independent banking units, which in time of stress struggled against each other, never working together as part of one great financial structure.

These defects are cured by the Federal Reserve System. The 12 regional banks, under the responsible coordinating influence of the Federal Reserve Board, can effect that prompt mobilization of reserves which is so essential in preventing panics. These banks are also able to provide the country with an elastic currency, which expands or contracts with seasonal and trade needs. It is possible to supply the farmers and the trade with adequate currency during the crop-moving period and to effect the necessary contraction when the seasonal requirements have been met. The reserves of each regional bank are available, through the discounting privilege, to all other Federal Reserve banks. The funds of the central reservoir can be diverted to any bank in the system which has need of them, so that the financing of an increasing or a decreasing volume of business can be accomplished with ease.

for the loss of national banks. The national banking system should be adequate to meet all of the requirements for modern banking, and no national bank ought to be put in the position of being forced to yield its charter in order to carry on legitimate and necessary banking operations.

My predecessor in his statement before the House Committee on Banking and Currency, April 9, 1924, showed that in the five decades preceding 1924 the aggregate resources of the national banks had dropped from a predominating control over commercial banking resources to only about 48% thereof. This rate of decline has been accelerated during the past two years, the national banks today holding only about 46% of the total commercial banking resources in the United States. This is true notwithstanding the fact that there has been year by year an actual increase in the aggregate resources of the national banks, the figure standing at the present time around $25,000,000,000.

The steady decline in the relative strength of the national banking system is accounted for by the more rapid growth of commercial banking under state charter, the total resources of the state commercial banks being at the present time about $29,000,000,000. This rapid increase of state banking resources is due primarily to the operation of state laws more favorable to modern banking than is the National Bank Act. It arises in part from accretions from the national system but more largely from the normal banking operations. The aggregate resources of the state savings banks of about $10,600,000,000 are not included in the above statement of resources of the state commercial banks. As compared with the combined resources of all state banks, commercial and savings, the national banks hold about 39% of the banking resources of the country.

. . . . . .

Ninety-one national banks, with aggregate capital of $5,412,500, were placed in charge of receivers during the year ended October 31, 1926. The date that each bank was authorized to commence business, date of appointment of the receiver, the capital stock, and the circulation outstanding at date of failure are shown in the Appendix of this report.

From date of the first failure of a national bank in 1865 to October 31, 1926, the number of banks placed in charge of receivers was 1,038. Of this number, however, 63 were subsequently restored to solvency and permitted to resume business. . . . .

. . . . . .

Information furnished by the banking departments of the several states discloses that during the fiscal year ended June 30, 1926, there were 496 failures of state and private banks, with total liabilities aggregating $147,823,000, an increase of 56 failures over the previous year, and also an increase of $29,095,000 in liabilities.

One of the sources of profit available to national banks but not to state-chartered banks was that of note issue. The rates of return on such operations varied according to the type and current price of the United States Government bond purchased by the bank to be deposited with the Comptroller of the Currency as security for the notes issued. Calculations of the profit on two types of bonds, and at different dates, are shown below for units of $100,000 of bonds:

	Consols of 1930 (May, 1926)		Panama 2s, 1916-1936 (November, 1925)	
Cost of bonds		$102,505.00		$100,946.00
Circulation obtainable		100,000.00		100,000.00
Receipts:				
Interest on bonds	$2,000.00		$2,000.00	
Interest on circulation less 5% redemption fund	5,700.00		5,700.00	
Gross receipts		$ 7,700.00		$ 7,700.00
Deductions:				
Tax	$ 500.00		$ 500.00	
Expenses	62.50		62.50	
Sinking fund	579.03		63.62	
Total		1,141.53		626.12
Net receipts		$ 6,558.47		$ 7,073.88
Interest on cost of bonds at 6%		6,150.30		6,056.76
Profit on circulation in excess of 6% on investment		$ 408.17		$ 1,017.12
		0.398%		1.008%

Many national banks did not elect to issue their own notes, however, preferring to use their funds for other purposes. Members of the Federal Reserve System could obtain, from their local Federal Reserve bank, Federal Reserve notes for use as till money. To obtain these notes, the member bank deposited with the Reserve bank, as security to the extent of 100%, any or all of the following types of collateral: paper eligible for rediscount, that is, paper endorsed by a member bank and arising out of actual commercial transactions or used for the purpose of carrying or trading in United States Government securities; bills of exchange endorsed by a member bank, or bankers' acceptances; gold or gold certificates. Federal Reserve notes, however, would

be subject to a gradually increasing tax in proportion to the amount by which the gold held by the issuing bank might fall below the legal minimum of 40% of the notes outstanding.

As of December 31, 1925, 6,724 national banks had a note circulation outstanding of $648,461,000; the remaining 1,330 national banks had no note circulation. At that time, there were outstanding $2,203,380,000 of Federal Reserve notes secured by $1,356,607,000 gold and $1,060,708,000 of "eligible" paper. There were also outstanding, on November 2, 1925, $6,582,203 of Federal Reserve Bank notes, issued by the Reserve banks against lawful money (optionally, United States Government bonds as required for national bank notes) with the Comptroller of the Currency.[1]

1. Should the consolidated bank have been operated under a national bank charter or under a trust company charter?

2. In the latter event, should it have joined the Federal Reserve System?

3. Is it desirable that Congress confer upon national banks the same general powers as those granted by state charters?

3. Federal Reserve Policy

CHANGING THE REDISCOUNT RATE

The financial statistics and the industrial statistics divisions of the Boston Federal Reserve Bank are constantly employed in analysis and compilation of data, which are submitted currently to the chief statistician and through him to the Federal Reserve agent. Whenever conditions as evidenced by the data indicate that a change in the rediscount rate might be advisable, the Federal Reserve agent compiles a condensed summary which he presents to the board of directors of the bank. The decision of the board of directors of the Boston Federal Reserve Bank as to any change in the rediscount rate does not become effective until approved by the Federal Reserve Board at Washington.[2]

[1] Figures from *Report of the Comptroller of the Currency*, 1926, pp. 10, 175, 182.

[2] Membership in this board is as follows: Secretary of the Treasury, and Comptroller of the Currency, members ex officio; and six members appointed by the President of the United States by and with the advice and consent of the Senate; not more than one to be selected from any one Federal Reserve district; one of these six men to be designated as governor, and one as vice-governor of the board. No senator or representative in Congress may be a member, nor may any member be an officer or director of any banking institution.

Coordination between the 12 Federal Reserve banks is secured by the control exercised by the Federal Reserve Board. Although each separate Reserve bank is designated to care for the particular interests of its district, the 12 banks are not of equal importance in the financial structure of the country. Consequently, a change in the rediscount rate of any Reserve bank would be viewed by the Federal Reserve Board in the light of the existing conditions not only in the particular district but also throughout the whole country.

The Federal Reserve Bank of New York is the most important and largest of the Reserve banks, since it operates in the only central money market in the United States. To a very great extent the purchases and sales of securities and acceptances of the other 11 Reserve banks are made through it and its relationship with them is therefore intimate. In addition, its close contact with the speculative markets of New York makes its rediscount rate sensitive and at the same time effective.

The summary of business, industrial, and financial conditions as given in Exhibit 1 is based on numerous statistical series currently compiled by the statistical department of the bank.

1925

Business activity in New England was much greater in 1925 than in 1924, and conditions on the whole were probably better than in any period during the past five years, except possibly in the year 1923, although it would appear that activity was steadier than in that year, not reaching excessive stages in any month or, on the other hand, falling appreciably below the average. While the textile and shoe industries, both important in the New England district, had been going through trying reorganization of selling methods and change of output, even in those lines many concerns had shown increased production and earnings and probably all had experienced improvement in one form or another. Business profits for the most part were fairly good. Efficiency of labor was relatively high and, while there was little unemployment, the aggregate labor turnover was small. Building construction throughout the year was maintained at a much higher level than in 1924, and new contracts awarded were in larger volume at the end than at the beginning of the year.

Retail trade was in such large volume that manufacturing output was readily distributed to consumers, and therefore manufacturers' and jobbers' inventories of finished material were not built up to a noticeable extent. . . . .

. . . . The relative stability of commodity prices was an important

factor in making 1925 a prosperous business year. An interesting phase of the commodity price situation is that, while production was increasing the latter part of the year, commodity prices showed an actual decline.

. . . . . .

The increase in total deposits of member banks in the New England Federal Reserve District which had been so prominent a feature of the banking situation of 1924 was even more pronounced in 1925, the weekly average deposits being approximately equal to the absolute peak of 1924. Although demand deposits of these banks were higher, more than one-half of the total increase was in time or savings deposits. With the larger volume of production, naturally there was an increase in the average volume of commercial loans, but the greater part of the gain in total resources of member banks was the result of the increase in collateral loans. Investments in securities also were larger. The general improvement in commercial business has been reflected in the business of the member banks, and the year for most member banks has been a profitable one.

. . . . . .

The average of loans and rediscounts to member banks was $33,000,000 in 1925, as compared with $18,000,000 in 1924, the increase being gradual to the end of the year, about 60% of the borrowings coming from banks outside of Boston. There have been very few instances of member banks having continuous loans with the Reserve Bank throughout the year, banks that have rediscounted usually liquidating their loans and rediscounting again as occasion demanded. In certain of the agricultural districts, owing to the successful outcome of the potato crop, member banks which have had continuous loans for several years with the Federal Reserve Bank have been able to liquidate their indebtedness to the Reserve Bank. From reports received at this bank, it would appear that the general condition of the member banks at the year's end was most satisfactory.

. . . . . .

During the year 1925 there was a steady advance in money rates in the New England market, due in part to the increased demands on the banks for commercial accommodation on account of greater activity in production. Brokers' commercial paper rates, which stood at 3½% at the opening of the year, stiffened to 4½% at the close. Rates for unendorsed 90-day bankers' acceptances rose from 3% to 3½%, and short-time United States Certificates of Indebtedness from 2⅝% to 3½% during the year. Call money ranged in the Boston market from 4% to 6%.[1] The rate on prime bankers' acceptances at the beginning of the year was 3%, gradually increasing to 3½% in September, a rate which continued during the remainder of the year. . . . . Early

[1] For a brief description of the use of call money in New York, see cases of Loughredge Company, page 55, and Garfield National Bank, page 241.

in the summer business activity began to increase and showed a steady increase well towards the end of the year, with a corresponding augmented demand for credit on the Reserve Bank. By September 23 the directors of the Federal Reserve Bank of Boston felt that the situation, so far as New England was concerned, warranted an increase in the discount rate to 4%, which they accordingly voted. Credit conditions elsewhere in other districts, however, evidently did not warrant such an increase at that time, and therefore the Federal Reserve Board did not approve this rate until some time later, the 4% rate becoming effective November 10, 1925.[1]

In New York at this time the rediscount rate of that district still remained at 3½%. The reasons given for holding it at that figure were summarized in the *Twelfth Annual Report of the Federal Reserve Board,* for year ending 1925.

The rapid growth in security loans by banks outside of New York City was accompanied by an increase in business activity more than seasonal in character, which resulted in a more rapid advance in the volume of commercial loans than had occurred during this period in either of the two preceding years, and was reflected in an increase in the rates for commercial paper in the open market. In view of this rise in money rates and of the growth both in member bank and in Reserve bank credit, particularly outside of New York, a series of advances in discount rates was made in November. On November 10 the rate at the Boston bank was raised from 3½% to 4%, and this was followed by similar advances in the rates at Cleveland, Philadelphia, and San Francisco, so that by the end of the month discount rates at all the Reserve banks, except that of New York, stood at 4%. The rate of the New York bank, however, which had been advanced from 3% to 3½% in February, remained at that level until after the close of the year. In the decision not to advance the rate at the New York bank at the time that the other rate advances were made, the Federal Reserve Bank of New York and the Federal Reserve Board took into consideration the fact that member banks in New York City up to November had shown but little growth in their loans on securities and in their borrowings at the Reserve bank. It was also recognized that the discount rate at the New York bank, because of its close relation to the central market, exercises a larger influence upon prevailing rates for commercial borrowing than do discount rates at other Reserve banks. In the absence of evidence of a speculative attitude among the commercial users of credit, the Reserve System was unwilling, for the purpose of exercising a measure of restraint upon those who were borrowing in order to carry or deal in securities, to raise the discount rate at New York, and thus to exert its influence in the direction of a further increase in the cost of credit to commerce

[1] *Eleventh Annual Report of the Federal Reserve Bank of Boston,* for the year ended December 31, 1925.

Exhibit 3

Weekly Statement of Resources and Liabilities, Boston Federal Reserve Bank and System as a Whole, at Close of Business, October 27, 1926

	Boston	Total (12 Banks)
Resources		
Gold with Federal Reserve agents	$142,629,000	$1,411,623,000
Gold redemption fund with U. S. Treasurer	6,749,000	54,130,000
Gold held exclusively against F. R. notes	$149,378,000	$1,465,753,000
Gold settlement fund with F. R. Board	50,497,000	727,545,000
Gold and gold certificates	33,726,000	630,029,000
Total gold reserves	$233,601,000	$2,823,327,000
Reserves other than gold	12,215,000	130,750,000
Total reserves	$245,816,000	$2,954,077,000
Non-reserve cash	5,428,000	52,841,000
Bills discounted:		
Secured by U. S. Government obligations	18,205,000	316,185,000
Other bills discounted	14,200,000	315,738,000
Total bills discounted	$ 32,405,000	$ 631,923,000
Bills bought in open market	$ 34,296,000	$ 307,541,000
U. S. Government securities:		
Bonds	542,000	46,611,000
Treasury notes	4,235,000	135,901,000
Certificates of indebtedness	4,832,000	117,662,000
Total U. S. Government securities	$ 9,609,000	$ 300,174,000
Other securities	.....	2,500,000
Total bills and securities	$ 76,310,000	$1,242,138,000
Due from foreign banks	.....	650,000
Uncollected items	66,183,000	693,558,000
Bank premises	4,068,000	60,407,000
All other resources	123,000	13,752,000
Total resources	$397,928,000	$5,017,063,000
Liabilities		
Federal Reserve notes in actual circulation	$151,273,000	$1,730,511,000
Deposits:		
Member bank—reserve account	150,844,000	2,216,896,000
Government	5,303,000	38,546,000
Foreign bank	479,000	8,258,000
Other deposits	102,000	17,431,000
Total deposits	$156,728,000	$2,281,131,000
Deferred availability items	63,013,000	638,465,000
Capital paid in	8,800,000	124,392,000
Surplus	17,020,000	220,310,000
All other liabilities	1,094,000	22,254,000
Total liabilities	$397,928,000	$5,017,063,000
Memoranda		
Reserve ratio (percentage)	79.8	73.6
Contingent liability on bills purchased for foreign correspondents	$ 3,191,000	$ 40,945,000
Federal Reserve notes on hand (notes received from Federal Reserve agent less notes in circulation)	34,543,000	337,667,000

and industry at the time of the seasonal peak in the volume of commercial borrowing and in the demand for credit to finance the marketing and export of agricultural products.

The New York money market, furthermore, is the point of contact with foreign central money markets, and changes in money rates in New York tend to influence the international movement of funds and of gold. In the autumn months, when seasonal trade movements tend to bring about gold imports, there was a net movement of gold to the United States, and, in view of the influence which gold imports have upon the banking situation in this country, the desirability of not adding further to the gold inflow was a factor in the decision not to advance the discount rate at the New York bank in November.[1]

The condition of the Federal Reserve Bank of Boston and of the system as a whole on October 27, 1926, was as shown in Exhibit 3.[2]

1. Should the rediscount rate of the Boston bank have been changed in November, 1926? If so, what change should have been made?

2. Did the situation as reported in New York in November, 1925, warrant leaving the rate of that district at 3½%?

3. Why does a change of rediscount rates and other interest rates affect the value of foreign exchange?

[1] *Twelfth Annual Report of Federal Reserve Board,* for 1925, p. 6.

[2] *Commercial and Financial Chronicle,* October 30, 1926, p. 2230.

XVI

BUSINESS CYCLES

Black, 591-621; Bye, 240-250; Clay, 229-241; Edie, 579-611; Ely, 320-339; Fairchild, I, 502-519; Gide, 139-149; Rufener, 539-557; Seligman, 543-546; Taussig, I, 388-414, II, 51-61.

1. Garfield National Bank[1]

COMMERCIAL BANKING AND THE BUSINESS CYCLE

The operation of an individual institution engaged in a commercial banking business may be expected to trace a course determined largely by the relations between fluctuations in general bank credit and the other manifestations of the business cycle.[2]

[1] Adapted from W. L. Crum, and H. B. Vanderblue, "The Relations of a Commercial Bank to the Business Cycle," *Harvard Business Review,* Vol. 3, No. 3, April, 1925, pp. 297-311.

[2] During the depression phase of the cycle, while unemployment is widespread, wages are falling (see, for example, case of the Alden Steel Company, page 470), commodity prices are low, and industrial and commercial activities are slack, bank loans are declining and reserves are mounting; in the later stages of the depression phase an abundance of bank credit is available to finance reviving business and new enterprises, and the rate of interest is attractive to borrowers. As business expands and moves out of the trough of depression into the improvement phase, bank loans increase in volume; and an expansion of loans is accompanied by rising deposits. The progress of business improvement carries industrial and trade activities into the prosperity phase, marked by productive operations on a scale at or approaching capacity, sharply rising commodity prices, heavy speculative commitments on commodities, and large orders for future delivery of equipment. This phase of the cycle witnesses continuing expansion in bank loans, featured by a slackening in the concurrent rise of deposits. In the later stages of this phase, bank reserves are drawn down, credit becomes scarce, and the rate of interest advances briskly. If the pace of business is maintained in the face of these warnings, a credit stringency develops, financial crisis occurs, loans are called or their renewal is refused, the enforced abandonment of speculative commitments precipitates a collapse of commodity prices, business activities are discontinued or sharply curtailed, and the economic system enters upon a new depression phase. If the pace of business in the prosperity phase slackens before the actual development of credit stringency, the prosperity phase may shade into depression—or mild recession—without any of the abrupt manifestations of a crisis. Whether or not a crisis occurs, the decline of business activity to depression levels leads to a commencement and repetition of those phases of the credit cycle already described.

It should not be inferred that fluctuating credit conditions constitute the sole and sufficient cause of cyclical movements in business. The credit supply is but one of the forces which operate to produce the business cycle, and it may fairly be doubted whether cheap credit alone can lift business out of depression. Nor is the decline of business activity from prosperity invariably due to limitations in credit

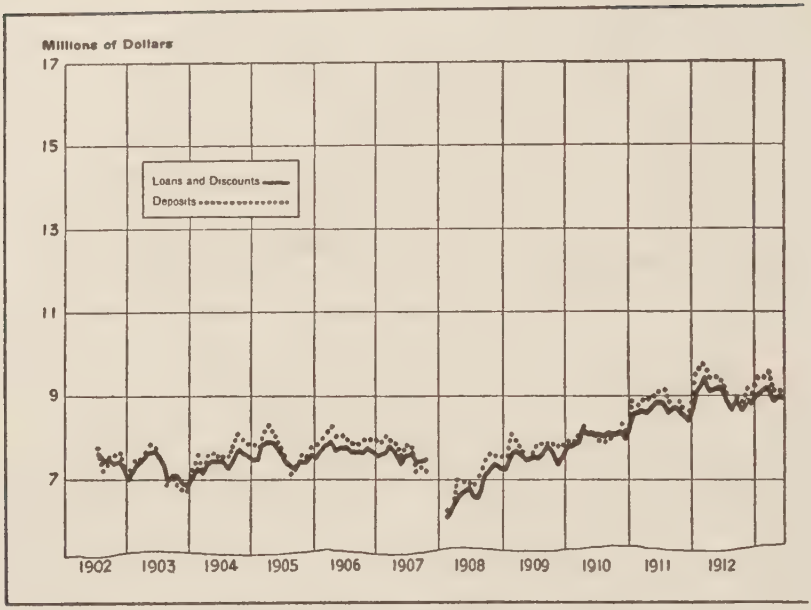


Exhibit 1*a*: Garfield National Bank—Loans, discounts, and deposits.

The management of a bank is especially tested at times of crisis. If its loan policy has been such that resources are not sufficiently liquid to meet the emergency demands of the crisis, its customers suffer severe losses and the bank itself may be forced to close its doors. If, on the other hand, its operations have been regulated so that the arrival of financial strain finds it able to finance the exceptional requirements of its own customers and perhaps assist in carrying the load of other banks, it helps cushion the shock of the business collapse and, in the long run, greatly strengthens its own prestige and power.

supply; but such limitations—although they may not actually take the form of a pronounced credit stringency—undoubtedly contribute to the curtailment of activity. Moreover, the rôle of credit in the business cycle does not arise necessarily from the form of our banking system; while variations in the lawful reserve requirements probably modify in a measure such rôle, the general extension of credit at the close of depression and the restraint upon borrowing at the peak of prosperity are features of a policy dictated by sound banking doctrine resting upon abundant experience.

What bearing have the several phases of the credit cycle on the operations and the policy of an individual banking institution? If the loan and deposit accounts of a bank move in general conformity with similar series for the banking system as a whole, there is indication that the individual bank is going with the current, expanding its profitable operations in periods of sound credit conditions and curtailing its accounts promptly and drastically during financial strain.

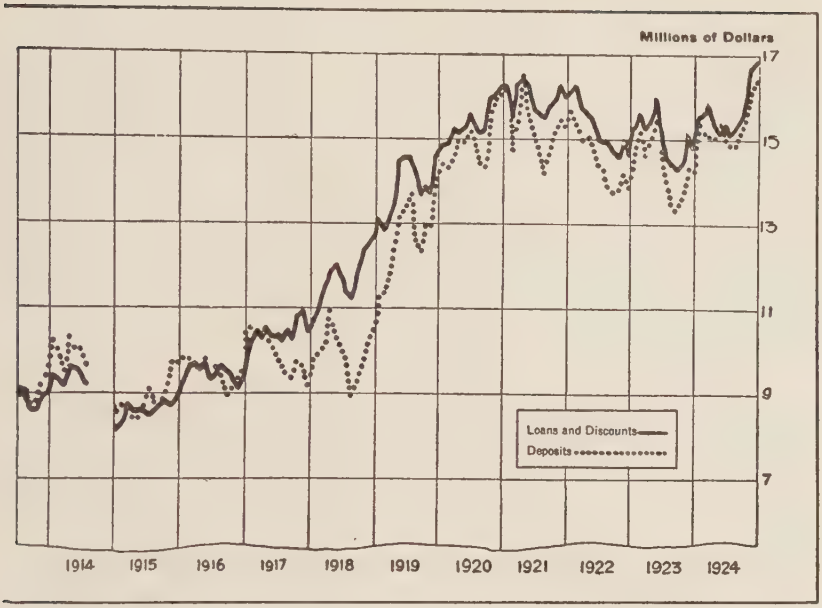


Exhibit 1*b*: Garfield National Bank—Loans, discounts, and deposits.

For the present study the Garfield National Bank was chosen. It is one of the very few smaller New York City banks which had not, during the interval studied, been merged with any other banking institution.

Weekly figures for average daily loans and average daily deposits were transcribed from the reports to the Clearing House Association, as published in the *Commercial and Financial Chronicle*, from July, 1902, to December, 1924.[1] From the weekly data for each series, monthly items were formed by taking the weekly average for each month, an overlapping week being assigned to the month containing the majority of its days. The results are charted in Exhibits 1*a* and 1*b*.

[1] The New York Clearing House Association adopted on October 1, 1907, certain amendments to its constitution, one of which "defined the make-up of the different items in the weekly bank statement" (*Commercial and Financial Chronicle*, Vol. 85, p. 836). The two items used in this study were defined as follows:

Loans and Discounts—Loans, discounts, and stocks and bonds and mortgages owned by the bank.

Deposits—Gross deposits and unpaid dividends, less exchanges for the clearing house, amounts due from other banks for collection, notes of other banks and checks on nonclearing institutions in this city.

These definitions held for the entire interval studied, except for unimportant changes late in 1914.

Figures are not available for a short period in the late fall and early winter of 1907-1908, following the panic of October, 1907. The suspension of payments by the Knickerbocker Trust Company on October 22 had precipitated "a desperate scramble for money" on the part of customers and out-of-town correspondents; and, for three troubled months during which interbank transactions were settled largely by clearing-house certificates, the usual figures for individual banks were not published.[1]

In February, 1908, when it was clear that more normal conditions were at hand, the publication of weekly reports was resumed.

In 1914 also, following the outbreak of the European War, the publication of the detailed weekly clearing-house statements was discontinued; upon the resumption of publication, December 5, 1914, the form of report was changed somewhat to conform with changes incident to the establishment of the Federal Reserve System.[2] Loans and deposits of the Garfield National Bank were at a low level following the crisis, but promptly advanced. During the later years of the war the loans curve (Exhibits 1*a* and 1*b*) rose much higher than that for deposits; this peculiarity was due to increases in the investment (chiefly government security) holdings, which are included in "loans" as reported.[3]

The outstanding feature of Exhibits 1*a* and 1*b*, barring the war-time experience remarked above, is the close similarity of movements in loans and deposits. This general similarity of movement, especially in *direction* of change, is in accord with the

[1] The maximum amount of such certificates was outstanding on December 16, 1907—$88,420,000; the largest amount of certificates issued to any one bank was $17,000,000; the smallest amount issued to any one bank was $250,000. The Garfield National Bank, however, did not find it necessary to avail itself of this resource. While the final cancelation of the clearing-house certificates did not occur until March 28, 1908, none was issued after January 30. For a full discussion of the panic of 1907, see Professor O. M. W. Sprague's *History of Crises Under the National Banking System,* a publication of the National Monetary Commission.

[2] The essential change in the items used in this study was a separation of net deposits into "demand" and "time"; but, as time deposits of the Garfield National Bank were never large, the change had no appreciable effect upon the homogeneity of the data here used. A further minor change was the inclusion of real estate owned in "loan and discount," but this also is unimportant.

[3] The ratio of investments to loans and discounts was approximately 20% at the September date of call in 1912, had grown to 25% in 1916, 35% in 1918, and fell off to 33% in 1919 and to 25% in 1920. As the item "loans" used in this study includes investments, as well as loans and discounts, the effect of these changes was considerable.

known tendency of bank loans to result in deposits and of deposits to lead to loans. The *rates* of movement are not, however, so uniformly similar; in general, deposits increase during the rise from depression and decrease during the fall from prosperity more rapidly than do loans, whereas at other times the movement of loans tends to be the more rapid.

Exhibits 1*a* and 1*b* give evidence, also, of the existence of a substantial growth factor and an appreciable seasonal movement in each curve. To facilitate examination of the cyclical fluctuations, each curve was corrected by eliminating the effects of secular trend where evidence of trend existed, and of seasonal variation.[1]

No cyclical analysis of the data for the war-time years seemed wise. For the postwar years, no correction for trend was made.

DEPOSITS AND LOANS

The adjusted relatives (1902-1914) for the deposits of the Garfield National Bank are shown in Exhibit 2 with comparable curves for the deposits of (1) all national banks in New York City and (2) all national banks outside New York City. In Exhibit 3 corresponding curves are shown for loans.[2] The same similarity between the curves for deposits and for loans, both in short-run movements and in cyclical swings, as was revealed by the chart of unadjusted monthly totals for the individual bank (Exhibits 1*a* and 1*b*) is disclosed by the three pairs of curves in these charts (those for the Garfield National Bank, those for national banks outside New York City, and those for national banks in New York City). A borrower usually leaves a part of the proceeds of a loan upon deposit and therefore an expansion of loans normally has the immediate effect of increasing deposits, while the latter are normally drawn down as loans are repaid.

[1] For description of methods used, see *Harvard Business Review*, Vol. 2, p. 409; Vol. 3, pp. 8 and 171.

[2] The curves for the Garfield National Bank are based upon bimonthly averages of the monthly adjusted relatives, those for the national banking system are based upon cycle units (after correction for trend and seasonal variation) utilizing figures reported to the Comptroller of the Currency at dates of call. The latter figures were analyzed at some length by Professor Warren M. Persons, "Cyclical Fluctuations of the Ratio of Bank Loans to Deposits," *Review of Economic Statistics*, Vol. 6, p. 260, and Professor Allyn A. Young, "An Analysis of Bank Statistics for the United States," *Review of Economic Statistics*, Vol. 7, p. 19.

On the other hand, an increase in deposits leads to a desire on the part of the bank to find profitable use for the additional funds, and so normally results in further expansion of loans. It follows from these relationships that whether money rates will tend to be firm or to be easy must depend in part upon whether loans are expanding more rapidly than deposits ("banker's market" for credit) or deposits are piling up more rapidly than loans ("borrower's market" for credit).

The position of the national banks in New York City in the general banking system was quite different prior to the war from what it is today. Now the Federal Reserve banks hold the legal reserves of the member banks. Reserves are in effect centralized. Until the Federal Reserve Act went into effect, the national banks of New York City held on deposit a very considerable part of the cash resources of the "outside" national banks. The result of the holding of bankers' balances in New York was that the deposit accounts of New York banks, as a whole, were subject to heavy withdrawals whenever for any reason—whether an expansion of business demand which promised a more profitable use of funds at home, or, in such an emergency as developed in the panic months of 1907, an outbreak of fear—the outside banks sought to "repatriate" their balances. Contrariwise, when there was slack demand for loans outside New York, the outside banks deposited their surplus funds with the New York banks. The latter naturally sought to expand their loans, and usually found an outlet for the available funds in loans upon stock exchange collateral.[1]

A logical consequence of the foregoing would be a tendency for the bankers' deposits to pile up in the New York City banks dur-

[1] Under the national banking system, the money forced out of circulation, in periods of low prices and stagnant trade, flowed to New York. There it generally served as the foundation of a rapid expansion of loans and discounts and investments on the one hand and of deposit credit on the other. The New York banks made advances to investors and to speculative buyers of bonds, and, usually a little later, to buyers of stocks. Large advances were commonly required to finance new issues of bonds. Low interest rates made such periods advantageous for refunding operations, for funding floating debts, and for issuing new securities to finance undertakings requiring large investments of capital in fixed and durable form.

"But a considerable part of the funds thus secured in New York could not be held there long. Payments had to be made to the ultimate borrowers in other parts of the country. Deposits were transferred to outside banks. The revival of industrial activity, with which these outside payments probably had something to do, led to increased lending by outside banks." Professor Allyn A. Young, *opus cit.*, Vol. 7, p. 33.

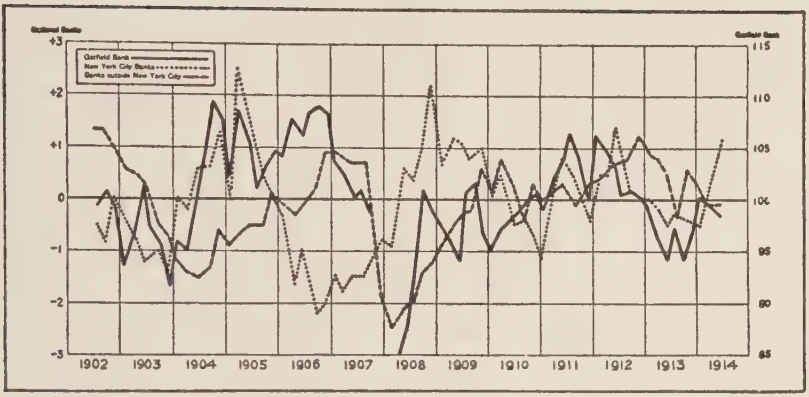


Exhibit 2: Cyclical variations in bank deposits.

ing a trade depression. As business conditions improve over the country, and higher interest rates are available at home, funds deposited in New York are largely recalled by the outside banks. Loans outside New York are increased to finance the expanding volume of business, while the drain of resources from New York requires a curtailment of loans in that city, and tends to raise rates on borrowings for speculative purposes. This brief description of financial movements applies especially to the period before the establishment of the Federal Reserve System, when deposits with national banks in New York City could be counted in the legal reserve of outside banks; but similar influences play a large part in the movements of funds into and out of New York under the Federal Reserve System.

The essential relationships discussed in the previous paragraph appear very clearly in Exhibits 2 and 3. Both curves for the banks outside New York trace a course quite similar to that of general business during the interval shown on the charts: crisis and declining business in 1903, late 1907 (panic), 1910, 1913; depression in 1903, 1908, 1911, and 1914; recovery in 1905-1906, 1909, 1912; and prosperity in 1902, 1906-1907, 1910, and late in 1912.[1] The curves for all national banks in New York City, on the other hand, moved well in advance of those for the outside

[1] The dates here given correspond with the timing of the phases of the prewar business cycles shown by such indexes as the Harvard Index of Trade, *Review of Economic Statistics,* Vol. 2, pp. 414-415, or the General Business Index of the American Telephone and Telegraph Company, *Review of Economic Statistics,* Vol. 1, p. 154. The discussion by Professor Warren M. Persons, "Bank Loans and the Business Cycle," *Review of Economic Statistics,* Vol. 3, p. 30, is also pertinent.

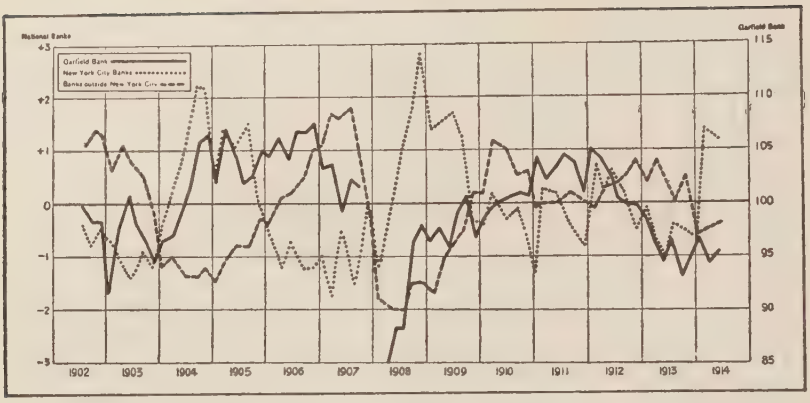


Exhibit 3: Cyclical variations in bank loans and discounts.

banks: declining while business improved, and increasing sharply while business was still depressed. These movements of deposits and loans in New York correspond with changes in the direction of movement of industrial stock prices, indicating that the addition to the supplies of money in the New York market during a business depression (as in 1903-1904, 1908, and 1911) tended to stimulate stock prices, whereas withdrawals of deposits from the New York banks (as in 1902-1903, 1905-1906, 1910, and 1912-1913) were accompanied by declining stock prices.

So far as the Garfield National Bank is concerned, its operations seem to have been little affected by the making or withdrawals of deposits by outside correspondents. The evidence of Exhibits 2 and 3 thus confirms the statements of the bank's officers that the bank has been operated primarily as a commercial bank and not a bankers' bank. It never was a large holder of funds deposited by other banks. It has been operated primarily as a business bank, and the curves for both its loans and deposits move closely with the curves for the national banks outside New York City.

Exhibit 4 shows the curves for loans and deposits of the Garfield National Bank for the six postwar years. Again the close correlation of the two series is clearly apparent; again it is clear that the broad swings are in sympathy.

The year 1919 is revealed as a year of expansion, 1920 as one of prosperity and crisis, and 1921 as a year of depression. Beginning in 1919 both curves rose, and reached a high level at the

middle of 1920 in response to the expansion of business and the general rise of prices; thereafter they moved sidewise for several months as the business expansion halted, and then advanced sharply during the months of crisis and rapidly rising interest rates of the fall and early winter. During the postwar inflation, loans were expanded, to be sure; but the increase of deposits was so much more rapid than the increase of loans that the ratio dropped sharply even in the crisis year, 1920. The practical result of this condition was that the bank could expand freely in the fall of 1920 when the crisis condition was very acute. The most remarkable thing was not, however, that the bank was in position to extend accommodation freely but that it was not forced to rediscount bills in its portfolio in order to make this possible.

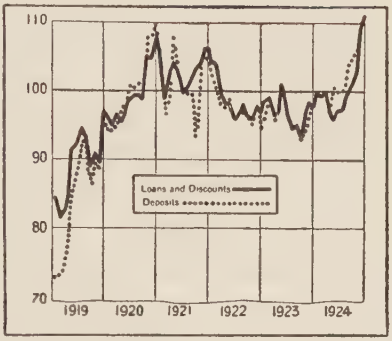


Exhibit 4: Garfield National Bank's loans and discounts, and deposits, expressed as relatives.

Only once, and then only for a few days, when an emergency transaction had resulted from heavy demands on a Friday, did the Garfield National Bank borrow from the local Reserve Bank. The increase of deposits during this period of business and credit strain was strong testimony to the skill with which the bank's customers had been advised in their financial affairs. A result of this condition was that even the expansion of business in 1922 and 1923 caused no marked increase in the demands upon the bank's resources. When business recovery set in, deposits were drawn down and loans failed to expand until the spring of 1923 when, for a few months, boom conditions obtained in some industries. The business recession of that summer is marked by slight advances of the two curves, followed by declines to the low figures of the fall, and thereafter by renewed advances, except for the effects of the slowing down in business which occurred early in 1924. In the latter half of that year there was a sharp recovery of both loans and deposits.

1. Why do bankers' deposits "pile up" in New York during a

trade depression? Should you expect interest rates in that market to be low or high under such circumstances?

2. Why do loans increase during a period of business revival? What years shown on the charts were marked by revival? What years by crisis and panic?

3. How did a crisis affect the loans and deposits of the Garfield bank? Why do these two series show "similarity of movement"?

4. Was the failure to resort to the Reserve Bank in 1920 a sign of good or bad banking practice?

2. Bethlehem Steel Corporation—Cambria Plant[1]

Iron production and the business cycle

The Cambria blast furnaces of the Bethlehem Steel Corporation are operated by an integrated steel-making organization; that is, a company which has its own supplies of fuel and ore, and carries the process of manufacture to the stage of turning out highly fabricated steel products. Moreover, the corporation has steel-making plants located alongside the Cambria blast furnaces and in direct physical contact therewith. Hence the Cambria furnaces must be classified as "steel-works" furnaces, rather than as "merchant" furnaces. Ordinarily, merchant furnaces produce chiefly foundry iron which is sold in the open market. Thus, according to the *Iron and Steel Works Directory* for 1926, all the 12 furnaces in the western Pennsylvania district other than the Cambria furnaces produce foundry iron, and all but one of these produce such iron exclusively for sale in the open market. The Cambria furnaces produce foundry iron, basic iron, and Bessemer iron.[2] In any case, it should not be understood that the output of steel-works furnaces is never sold in the open market or, on the other hand, that steel works having their own blast furnaces

[1] Adapted by permission from W. L. Crum, "An Iron Producer and the Business Cycle," *Harvard Business Review*, April, 1927, p. 298. The data for the Cambria plant were placed in Professor Crum's hands through the courtesy of the Bethlehem Steel Corporation, and were published by permission of that company.

[2] According to the *Iron and Steel Works Directory* for 1926, the output of foundry and basic iron is "for sale and for own use," and the output of Bessemer iron is "for own use only." In this connection, it should be noted that the output —whether foundry iron or other—of the 12 other furnaces in the western Pennsylvania district is "for sale," with the single exception that the foundry-iron product of the Kittanning furnace is "for sale and for own use."

never find occasion to secure supplies of iron in the open market. It is indeed these occasional entries of steel works—whether as buyers or sellers—into the open market for pig iron which renders that market so sensitive to conditions in the trade. In active times, however, the output of the steel-works furnaces is consumed by the parent company and is not sold.

The Cambria plant is located at Johnstown, about 60 miles east of Pittsburgh, and is included in that group of furnaces designated by the *Iron Age* as the western Pennsylvania district. This district, which is somewhat less compact than many of the other producing districts, includes all of the furnaces in the western portion of the state except those in the immediate Pittsburgh district and in the Beaver and Shenango valleys. It is clear from the dotted curve of the chart in Exhibit 2 (based upon the table

EXHIBIT 1

ANNUAL PRODUCTION OF PIG IRON AT THE CAMBRIA WORKS, IN THE ENTIRE UNITED STATES, AND IN THE WESTERN PENNSYLVANIA DISTRICT

	Actual Production (Unit: 1,000 Gross Tons)			Per Cent Ratio of Cambria Output to	
	Cambria Works	Entire United States	Western Pennsylvania District	U. S.	W. Pa.
1902	556.2	17387	1013.1	3.20	54.9
1903	611.3	17426	1158.0	3.52	52.7
1904	529.5	16131	988.4	3.28	53.5
1905	655.2	22560	1254.1	2.91	52.3
1906	722.7	24791	1463.8	2.93	49.4
1907	729.7	25307	1523.2	2.90	47.9
1908	369.5	15620	857.8	2.37	43.1
1909	786.8	25397	1523.6	3.10	51.7
1910	806.9	26849	1491.3	3.01	54.1
1911	727.5	23326	1093.5	3.12	66.5
1912	972.8	29375	1652.9	3.31	58.8
1913	1006.2	30716	1784.1	3.26	56.1
1914	858.6	23050	1378.4	3.72	62.3
1915	1139.1	29661	1809.7	3.84	63.0
1916	1259.9	39025	2082.6	3.25	60.5
1917	1523.3	38185	2409.3	3.99	63.3
1918	1367.0	38506	2183.6	3.55	62.6
1919	677.2	30582	1413.9	2.23	47.9
1920	1109.1	36415	1934.3	3.05	57.4
1921	459.1	16544	779.2	2.78	59.0
1922	869.7	26881	1117.3	3.23	77.8
1923	1272.0	40059	2044.3	3.18	62.2
1924	909.2	31108	1285.0	2.92	70.7
1925	1114.9	36401	1348.4	3.06	82.6

in Exhibit 1) that the Cambria plant has produced an increasing share of the district output during the last quarter-century. The other furnaces of the district are largely merchant producers, and it has been the general rule that merchant furnaces remain small while steel-works furnaces have been enlarged and modernized or replaced by entirely new and larger equipment. The number of furnaces at the Cambria plant increased from 6 in 1901 to 9 in 1926, and the change in total annual capacity of output was from 650 thousand tons to 1,740 thousand tons. The number of other furnaces in the district decreased from 14 in 1901 to 12 in 1926, and the change in total annual output was from 656 thousand tons to 1,155 thousand tons. This growing relative importance of the Cambria furnaces in the western Pennsylvania district should be kept in mind, especially in tracing relations between Cambria production and district production.

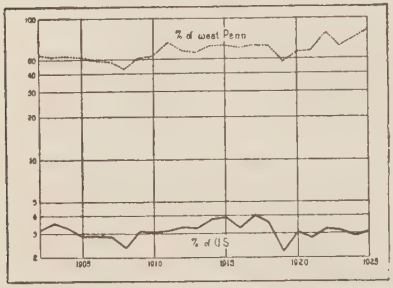


Exhibit 2: Percentage ratio of Cambria pig-iron output to that of the western Pennsylvania district and of the entire United States.

The solid curve of Exhibit 2 shows the portion of total pig-iron output in the United States which was produced by the Cambria works. On the whole, changes were slight and hardly significant, except that the considerable rise of the curve in the years 1908-1917 marks the results both of the efforts to modernize the Cambria furnaces and of the addition of new stacks.

EXHIBIT 3

AVERAGE CONDITIONS, IN 1902-1907 AND IN 1914-1924

	1902–1907		1919–1924		Per Cent Increase, 1902–1907 to 1919–1924
	Average Monthly Production*	Per Cent of U. S. Total	Average Monthly Production*	Per Cent of U. S. Total	
Cambria Works.....	52.84	3.1	73.56	2.9	39
Entire United States..	1717.	100.	2522.	100.	47
Western Pennsylvania District.....	102.8	6.0	119.1	4.7	16

*Unit: 1,000 gross tons.

Exhibit 3 shows the changes in output between 1902-1907 and 1919-1924 for the entire United States, the western Pennsylvania district, and the Cambria works. Each of these two 6-year intervals comprises substantially two complete cycles of iron production, and averages for these intervals are unlikely, therefore, to be seriously influenced by variations in general business conditions. It is evident that the portion of total United States output contributed by the district declined considerably more during the quarter-century than the portion contributed by the Cambria works.

For many years iron has been regarded as a "barometer of trade," and conditions in the iron and steel industry have been accepted as indicative of the general state of business.[1] The fact that iron and steel are the basic raw materials of many lines of manufacturing industry renders the output of these commodities peculiarly sensitive to actual and impending changes in general industrial activity. Moreover, although large-scale integration within the steel industry has served to give relative inflexibility to the price of steel products, the price of pig iron has continued to be strikingly responsive to fluctuations in business conditions.[2] It is to be expected, therefore, that the record of an individual plant producing pig iron will reveal clearly the dips and peaks induced by the ebb and flow of general prosperity.

Exhibits 4*a* and 4*b* show the actual monthly record of output by the Cambria furnaces since 1889. Except for rather brief dips occasioned by business depressions, the monthly output of the Cambria plant rose steadily until 1918. During the years since the war there has been no evidence of further increase in output; in fact, production appears to have fluctuated about a fairly constant level since 1912. The long-time tendency toward increase, apparent from 1889 to 1918, reflects the secular trend of Cambria output. To facilitate comparison of cyclical fluctuations in Cambria output with other curves of cycles, the secular (long-time) trend needs to be removed. As the trend ap-

[1] An elaborate study of the relations between business conditions and the iron and steel industry is presented in a recent book written by W. L. Crum, in collaboration with Homer B. Vanderblue: *The Iron Industry in Prosperity and Depression* (Chicago: A. W. Shaw Company, 1927).

[2] This responsiveness of pig-iron prices to business conditions is treated at length in *The Iron Industry,* mentioned above. See especially Chapters II and IV of that book.

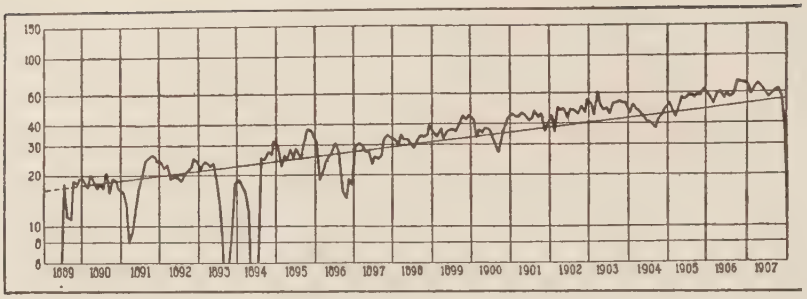


Exhibit 4*a*: Actual monthly pig-iron output at the Cambria works (*Unit: 1,000 gross tons*).

pears to be represented by the inclined straight line in Exhibits 4*a* and 4*b*, and as that chart is plotted on a ratio scale, the pre-war trend is of the compound-interest type. This trend, for the interval 1890-1914, was determined and eliminated in the usual way.[1] As the trend from 1912 on appears to have been horizontal, an assumed normal—73,560 gross tons, the average monthly output, 1919-1924—was taken for the interval beginning March, 1912. The ratio of each actual item to this assumed normal was computed; and these results, with the ratios found for the earlier interval, show the record of Cambria output "with trend eliminated."

There is some evidence, in both Exhibits 4*a* and 4*b* and Exhibit 5, of a seasonal swing with moderate peaks in the spring and autumn. Although this seasonal movement is not heavy, its presence is not surprising, for iron production shows month-to-month variations due to lack of uniformity in the length of the month and to causes more truly "seasonal." This annual swing, therefore, was measured and eliminated.[2] The seasonal swing, together with the corresponding indexes for the entire United States and the western Pennsylvania district, appears in Exhibit 6 (left side). On the right side of Exhibit 6 are shown the same

[1] The actual determination comprised fitting a straight line, by the method of least squares, to the logarithms of the annual average production 1890-1914. The ordinate of this line for each month from July, 1889, to December, 1914, could then be found; and the antilogarithm of this ordinate was the desired ordinate of the compound-interest curve. Division of the actual monthly output in the particular month by this compound-interest ordinate eliminated the secular trend. The resulting "ratios of actual output to normal trend," for the interval 1902-1904, appear in Exhibit 5.

[2] Professor Persons' median-link-relative method was used, and the computations were based upon the interval 1903-1914.

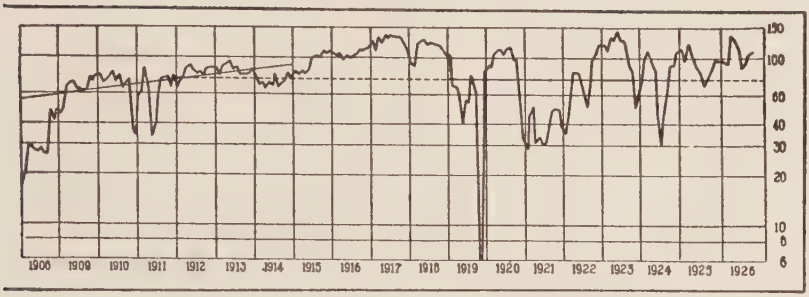


Exhibit 4*b*: Actual monthly pig-iron output at the Cambria works (*Unit: 1,000 gross tons*).

seasonal movements with corrections to eliminate the effect of non-uniform length of month. The fairly close similarity between the three seasonal movements is evident from this chart.

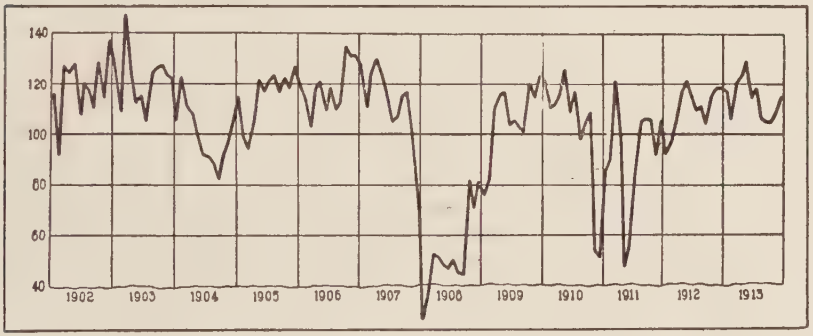


Exhibit 5: Ratio of actual pig-iron output at the Cambria works to corresponding ordinate of trend each month.

The "ratios of actual output to normal" were next corrected for seasonal movement by means of the seasonal indexes. The results, appearing in the dotted curve of Exhibits 7*a* and 7*b*, show the cyclical fluctuations in Cambria output. The solid curve of Exhibits 7*a* and 7*b* shows corresponding cycles in total pig-iron output in the United States.[1] It is

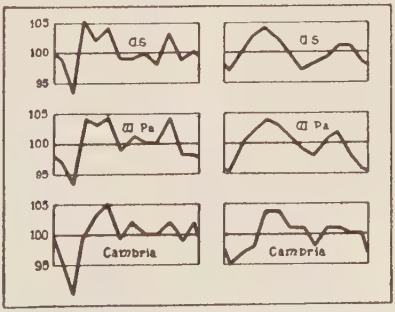


Exhibit 6: Seasonal indexes for aggregate pig-iron output (*left*) and after adjustment for length of month (*right*).

[1] *Review of Economic Statistics*, Vol. 7, p. 45.

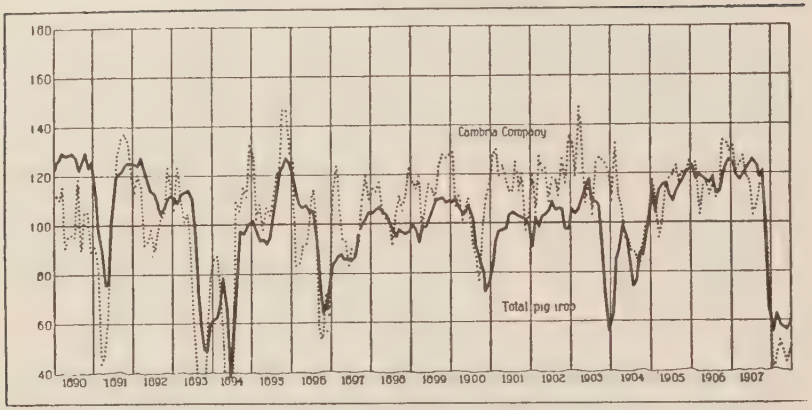


Exhibit 7*a*: Cycles of pig-iron output, for the Cambria works and for the entire United States.

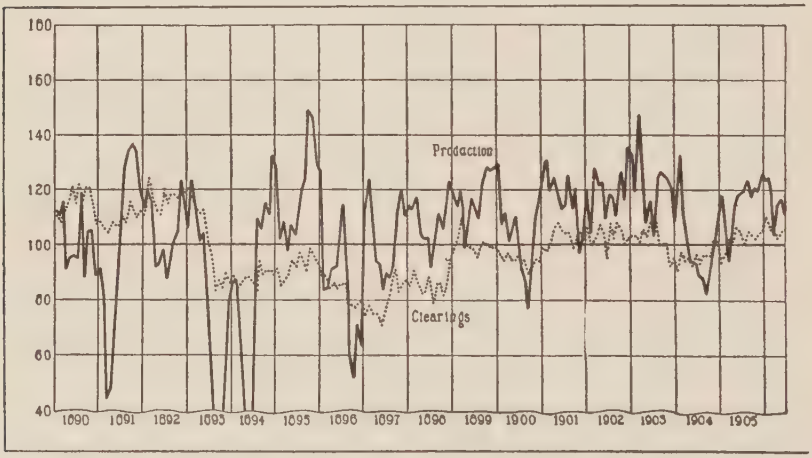


Exhibit 8*a*: Cycles of pig-iron output at the Cambria works and cycles of bank clearings (debits beginning with 1911) outside New York City.*

*Clearings for seven selected cities through 1902 (see *Review of Economic Statistics*, Vol. 7, p. 252), for all cities outside New York from 1903 to 1914 (see *Review of Economic Statistics*, Vol. 7, p. 220). Debits corrected for trend as described in *Review of Economic Statistics*, Vol. 8, p. 66.

evident that, in all their main movements, the two curves fluctuate very closely together. The Cambria curve recovered more vigorously in the middle of 1890 and early 1897 than did the general curve, and it escaped the sharp and severe recession in general output at the beginning of 1904. In early 1910 and late 1913, the Cambria curve held up rather better than the gen-

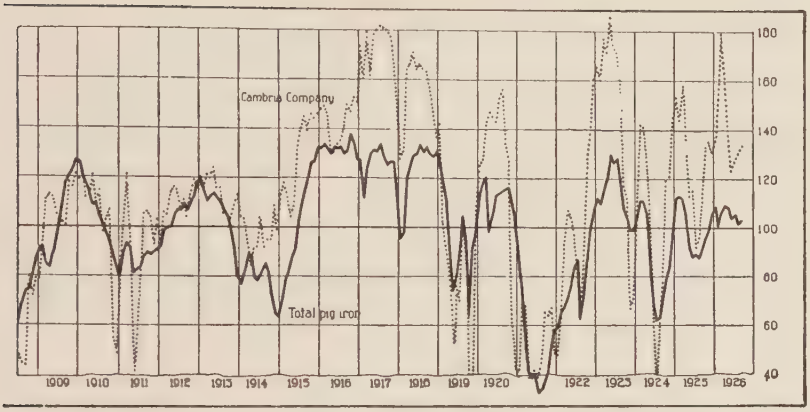


Exhibit 7*b*: Cycles of pig-iron output, for the Cambria works and for the entire United States.

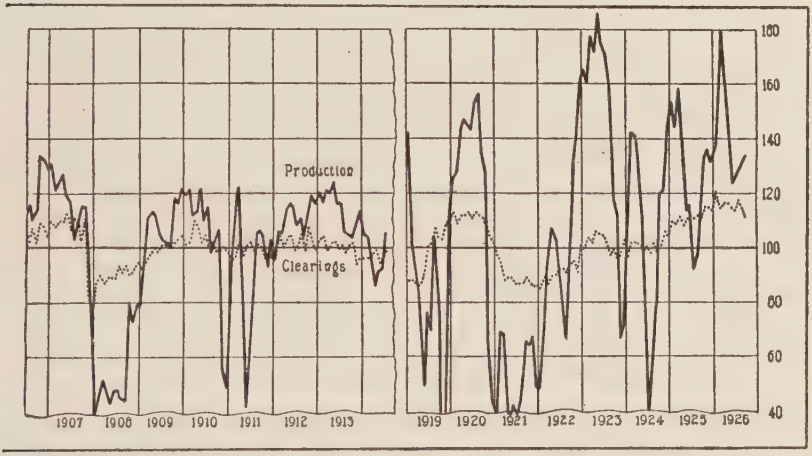


Exhibit 8*b*: Cycles of pig-iron output at the Cambria works and cycles of bank clearings (debits beginning with 1911) outside New York City.*

eral curve, but the strikes of late 1919 seem to have interrupted Cambria production altogether. These points of difference are minor, however, and the principal cyclical fluctuations appear at like times and in like intensities in both curves.

Exhibit 9 shows Cambria production cycles in comparison with corresponding cycles for the entire western Pennsylvania district. The greater intensity of the district cycles, particularly in the earlier years, reflects the presence of merchant furnaces. The disappearance of this disparity in intensity during the later years

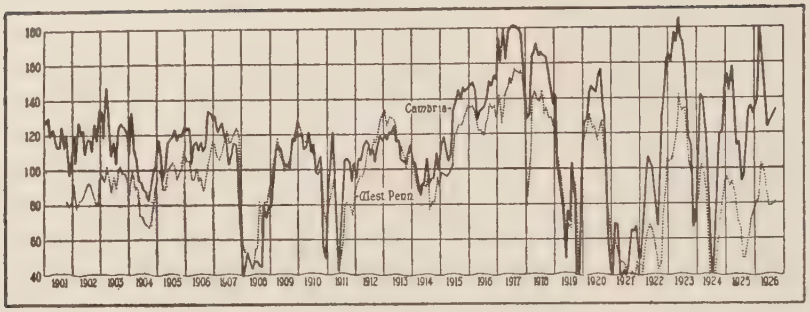


Exhibit 9: Cycles of pig-iron output, for the Cambria works and for the entire district.

marks the growing dominance, noted above, of Cambria production in the district output.

In Exhibits 8*a* and 8*b*, Cambria production cycles are compared with corresponding cycles in general business activity as reflected by an index of bank clearings (bank debits, following the war) outside New York City.[1] As might be expected, the similarity is very close. It is well known that pig-iron production in the entire United States fluctuates in close sympathy with general business activity. As Cambria production moves closely with total production (Exhibits 7*a* and 7*b*), it is not surprising that Cambria production responds accurately to changes in general activity. It is evident, then, that a blast-furnace plant, even though operated in connection with steel works and not serving the open market for pig iron, is very sensitive in its operations to business fluctuations.

1. Was there overproduction, either in general business or in the steel industry, in 1920, 1923, or 1926?
2. What changes, if any, does this case indicate to have taken place in those years as to prices, wages, and general economic welfare?
3. How, if at all, can such changes be modified or eliminated?
4. How does the existence of the business cycle affect the purchasing problems of an iron producer? The labor problem? The selling problem?
5. Which kind of business is it easier to manage: one not greatly affected by the business cycle or one which is very sensitive to changes in general business?

[1] See case of the Garfield National Bank, page 241, and also *Review of Economic Statistics*, Vol. 7, p. 252 and Vol. 8, p. 66, for discussion of this index.

XVII

BASIS FOR FOREIGN TRADE

Black, 129-149; Bye, 271-281; Clay, 204-209; Edie, 664-684; Ely, 55-68, 356-363; Fairchild, I, 520-533; Gide, 338-352; Ruffener, 645-666; Seligman, 547-551; Taussig, I, 479-506.

1. Castern Company

IMPORTATION OF PHILIPPINE EMBROIDERY AND HATS

The Castern Company, of Philadelphia, imported general merchandise. In 1899, soon after the American occupation of the Philippines, the company began to import the products of those islands. By 1919 it had discontinued all importations from the Philippines, except embroideries, laces, baskets, and hats. Because an influx of inferior Philippine goods into the American market in 1918 and 1919 had made competition more keen in those products, the Castern Company considered discontinuing its trade with the Philippine Islands, and specializing in Japanese and Chinese silk goods.

In 1919 the Philippine Islands were still in the handicraft stage of manufacturing development. Embroideries, hats, and baskets were made by hand in the native huts. Under the previous Spanish rule, embroidery and handiwork had been taught in the convents, and the excellence of the handiwork was unquestionable. Under American occupation, handicraft was taught by the Bureau of Education to all school children.

The Castern Company had built an assembly factory at Manila in 1909 which represented a capital investment of $300,000. With this as a base, an organization had been developed for dealing with the natives throughout the islands. It was necessary to employ native middlemen, called cabecillas, since natives spoke only Filipino dialects or imperfect Spanish. The company shipped from the United States to its factory in Manila all the cotton lingerie, children's clothing, table linen, and other articles which were to be embroidered. The principal articles of the embroid-

ered products were nightgowns, corset covers, undervests, chemises, petticoats, and baby clothing. Garments were cut out in the United States from American cotton fabrics of high quality. The pieces were distributed from the assembly factory to the cabecillas. The latter in turn distributed them to the natives who were to do the work. The company also furnished the stencils for designs and advanced money to the cabecillas, who paid cash for the work as it was turned back in pieces by the natives. For its finished products, the company had established a reputation for high and uniform quality.

In addition to embroideries, the company imported Philippine hand-made hats such as bankok and baliway. It used its organization in Manila for the purchase of these hats.

Prices paid for work were determined by bargaining between the company and the cabecillas. The company from time to time established standard prices, such as 25 cents a garment for plain scalloping on a nightgown. These prices were based on what it was necessary to pay workers in the factory at Manila. The company then bargained with the cabecillas who represented different groups of natives. Prices were determined on the basis of the standard price and the type of embroidery work desired. In the Philippine Islands, each locality and each group of natives were skilled especially in some one type of embroidery or lace making. It often was necessary, therefore, to send a single garment in succession to several different parts of the islands if the design called for several kinds of embroidery such as scallops, open work, or heavy work. The cabecilla was supposed to receive a 5% commission, but there was no way of determining what prices were paid the natives. The company employed about 200 cabecillas, each of whom represented about 500 native workers. The company thus received the work of about 100,000 to 125,000 natives. It was necessary for the manager of the factory to bargain continuously with the cabecillas in regard to prices and to maintain close inspection of quality.

In its assembly plant, the company employed about 200 women and a few boys. Embroidered articles and lace came into the factory from the natives and cabecillas at the rate of 2,000 to 3,000 pieces a day. They were inspected, laundered, and packed for shipment to the United States. In the United States the

company was organized to sell to department stores and to wholesalers who distributed to small shops.

The company's sales of Philippine products in the United States had averaged about $1,000,000 a year. Sales in 1917 and 1918 had been increasing, and it was expected that in 1919 they would reach $1,500,000 because of increased American demand and higher prices on cotton goods. In a typical shipment of nightgowns, the costs to the Castern Company were as follows:

Items	Costs	Country
Fabrics	$ 6.00 a dozen	in United States
Labor in embroidery	3.00 a dozen	in Philippines
Washing and ironing	1.20 a dozen	in Philippines
Sewing	1.20 a dozen	in Philippines
Freight and incidental charges to and from the Philippines	1.20 a dozen	
Total landed cost	$12.60 a dozen	in United States

These nightgowns were sold by the Castern Company at $18 a dozen, and usually retailed at $2.50 to $3 a garment. Because of the long distance from the market and the time consumed in handiwork, about 1½ years elapsed between the time the company first bought materials and the time that the finished products were sold. Since it was necessary to purchase cotton goods in advance and to pay the natives in cash, a capital investment in inventories of over $500,000 always was necessitated.

Previous to 1914, the quality of workmanship in both embroideries and hats had been excellent, and Philippine hand-made garments had a reputation for excellence in the United States. During the World War, however, the demand for Philippine articles increased. The value of exports of embroideries and hats from the Philippines to the United States had more than tripled by 1916. The quality of workmanship became irregular because of the increased production and the lowering of inspection standards by companies trading in inferior products. It was necessary, especially in the purchase of hats, to have a skilled person inspect purchases. If the company attempted to buy hats in large lots of several thousand hats at a time from small collectors and dealers, prices were raised immediately. It thus was necessary to purchase frequently and in small lots. The sales of hats was seasonal since straw hats were used in the United States only in summer. The company's sales of hats amounted to about one-third of its total sales of Philippine articles.

At the beginning of 1916 the company found difficulty in competing with the large influx of inferior Philippine hand-embroidered garments that were imported into the United States by Syrians. The company found that Syrians worked in family groups; one group remained in the United States and another lived in the Philippines. They had small overhead expenses, worked at all hours, were able to live and deal with the natives in the Philippines, and traded on a small margin of profit in goods of inferior quality. Garments sold by them were often scanty in materials, of cheaper fabric, and poor workmanship, yet, because of the reputation for quality of Philippine undergarments, inferior garments found a ready sale in small side-street stores and even in department stores at prices which the Castern Company could not meet profitably. Inferior garments were sold at prices 20% to 30% lower than the prices for the Castern Company's garments. The company also found that the embroidery and lace designs which it originated were copied in the Philippines and reproduced on inferior material even before the company's products reached the American market.

The president of the company had noticed, moreover, a tendency toward a change in style in women's undergarments. Shirt waists were becoming less common, and simple silk crêpe undergarments were displacing embroidered cotton garments. The demand for silks instead of cottons had been increasing. The president believed that the demand for silks would continue on a large scale because of the rising standard of living and because of the wearing qualities, ease in laundering, and personal comfort offered by silk undergarments. He also believed that when the World War was over, French lingerie, which formerly had been imported in large quantities before the war had cut off its manufacture, again would be in plentiful supply. French garments, although usually of no better quality than the high grades of Philippine work, had the competitive advantage of being imported from France, where women's styles originated.

Experiments in having silk garments embroidered in the Philippines had been unsuccessful. Philippine embroidery work was not suited to silk garments.

When the Castern Company entered the Philippines in 1899, the average daily wage paid to natives had been, in United States currency, 6 cents for women and 12 cents for men. Those rates

were but a small fraction of the wages for similar work in the United States. By 1919 wages had increased to 25 cents a day for women and 50 cents a day for men, but were still far below American wages.

By 1919 the Castern Company had developed a considerable trade in Japanese silk goods and Chinese cotton crêpes. Nevertheless, if the company discontinued its importation of Philippine goods, it might suffer a serious decline in sales for several years, since Japanese and Chinese goods had been regarded as of secondary importance, and sales of them had not been emphasized. It was estimated, however, that the company could increase its sales of Japanese silks through greater efforts of its sales organization.

Deliveries from Japan and China took from six weeks to eight weeks. Since department stores sometimes ordered three or four months in advance of delivery, the company did not have to carry a complete stock. It carried samples and small stocks at its branches in the principal cities in the United States. The turnover thus was increased to between four and five times a year as compared with once in 1½ years in the Philippine trade. Habutai silks, which were the product of Japanese native hand looms, were not duplicated in the United States. The company had found no domestic article which duplicated Chinese cotton crêpe at the price which the Chinese offered.

There was danger, however, in specializing in a few products from one country. The Japanese practically had a monopoly on the world silk production. French and Italian silks could not compete in price. Chinese silks were said to be unreliable in quality. The prosperity of Japan, however, depended largely on the one commodity, silk, and on one market, the United States, which took approximately 90% of the country's silk production. Sales of silks were influenced by style and business conditions, and there was an increasing use of artificial silks which might offset the demand for real silk.

In the fall of 1919, the Castern Company received an offer of $500,000 for the purchase of its assembly plant and business in the Philippines. Although business conditions were then favorable, and the sales of the company in Philippine articles were above $1,000,000 yearly, the president believed that competition of inferior goods and the tendency toward style change in

imported undergarments eventually would eliminate all profit on the company's Philippine trade. No other products from the islands could be imported with sufficient profit to justify the maintenance of the organization. The company decided, therefore, to sell its assembly plant, to discontinue all importing from the Philippines, and to specialize in Japanese unconverted silk and Chinese cotton piece goods.

1. Aside from changes in demand, did the Philippines have a permanent advantage in the production of embroideries?
2. Assuming that there were no legal barriers against immigration into the United States, would you have expected large numbers of Filipino workers to come to this country?
3. What effect would the company's decision tend to have on standards of living in the Philippines? in Japan?

2. Lamont Machinery Company

Sale of Machinery in Colombia

The Lamont Machinery Company manufactured and exported various kinds of plantation machinery, particularly for the preparation of coffee, rice, sugar, and cocoa. The bulk of its sales was in coffee machinery, for which the chief markets were Central America, Colombia, and Ecuador. Although the company had its own agents in Central America, no agents or salesmen had been employed in Colombia, where the company had depended upon mail orders for its sales. In June, 1923, the company contemplated undertaking aggressive sales efforts in Colombia in order to increase sales in that territory.

As a preliminary measure, the company wished to examine the general suitability of Colombia as a market for machinery made in the United States. A report was drawn up to indicate the important factors in regard to Colombia.

This report showed that Colombia had been primarily an agricultural and mining country. Coffee was the chief crop. In addition to being practically the only producer of emeralds, Colombia contained resources of platinum, gold, and oil. Transportation facilities were extremely limited, being confined chiefly to river navigation and packhorse carriage. The country was mountainous, and the centers of population were widely separated

from each other. Plans were under way, however, looking to the financing and construction of railroads, and the improvement of roads. There were no metal-working or machinery-manufacturing plants of importance. The population numbered about 6,400,000.

Many coffee-producing enterprises had purchased modern plantation machinery from foreign countries. In many districts, however, laborers still used hand implements, such as the hoe and machete. Fertility of soil and variation in climate according to altitude gave the country marked agricultural advantages. These probably would be used more extensively as transportation facilities were improved. Domestic food needs were amply supplied, and there were substantial surpluses of coffee and bananas for export.

In regard to coffee, Colombia was second only to Brazil as a producer of the world supply. There were about 200,000,000 coffee trees under cultivation, and this number could be greatly increased if conditions should warrant. During the decade 1913-1922, coffee alone represented over 55% of Colombia's total value of exports.

A high tariff on imports was said to be the cause of high living costs in Colombia. Among the laboring classes, a low standard of education and living prevailed.

EXHIBIT 1

COLOMBIAN IMPORTS AND EXPORTS, IN COLOMBIAN DOLLARS, 1913-1922*

(Colombian dollar=$0.9733)

Year	Imports	Exports	Trade Balance (+) Increase or (−) Decrease
1913	28,535,779	34,315,251	+ 5,779,472
1914	20,979,228	32,632,884	+11,653,656
1915	17,840,619	31,579,131	+13,738,512
1916	29,660,206	36,006,821	+ 6,346,615
1917	24,751,209	36,739,882	+11,988,673
1918	21,783,002	37,443,991	+15,660,989
1919	47,451,724	79,010,983	+31,559,259
1920	101,397,906	71,017,729	−30,380,177
1921	33,078,317	63,042,132	+29,963,815
1922	44,148,024	53,816,331	+ 9,668,307

*Department of Overseas Trade (London), *Report on the Commercial and Economic Situation in the Republic of Colombia*, May, 1925, p. 45.

The Colombian balance of foreign trade from 1913 to 1922 was as shown in Exhibit 1.

Coffee long had been a commodity in great demand in the United States. None is grown in this country. Coffee was imported as a raw material and manufactured after arrival by being blended and roasted. Imports from 1912 to 1922 had been as given in Exhibit 2.

EXHIBIT 2

UNITED STATES IMPORTS OF COFFEE, 1912-1922*

Year	Value
1912	$117,827,000
1913	118,963,000
1914	110,725,000
1915	106,766,000
1916	118,813,000
1917	122,607,000
1918	99,423,000
1919	261,270,000
1920	252,451,000
1921	142,809,000
1922	160,854,000

*U. S. Government Commerce and Navigation reports.

During the period studied, the merchandise trade of the United States with Colombia had been as summarized in Exhibit 3.

EXHIBIT 3

MERCHANDISE TRADE OF UNITED STATES WITH COLOMBIA, 1910-1922*

	Imports (from Colombia)	Exports (to Colombia)
1910-1914 (Average)	$11,946,000	$ 5,764,000
1921	43,976,000	17,734,000
1922	36,064,000	20,137,000

*U. S. Government Commerce and Navigation reports.

The company's products, designed to render labor more effective by economizing effort, were made by large-scale production processes which took advantage of the highly developed technique attained by the United States in machine manufacturing. The Lamont Machinery Company was interested to analyze the general characteristics of the United States trade with Colombia as a South American nation. For that purpose, it gathered the information shown in Exhibit 4.

EXHIBIT 4

ANALYSIS OF TRADE OF UNITED STATES WITH SOUTH AMERICA

(1910-1914, Average)

Classes of Commodities	Percentages of Trade with South America (Continent)	
	Exports from U. S. (Total—100%)	Imports to U. S. (Total—100%)
Crude materials	2.1	38.1
Crude foodstuffs	1.1	46.2
Manufactured foodstuffs	9.9	1.6
Semimanufactures	18.1	13.0
Finished manufactures	68.7	1.1

1. What general conclusions should the company have drawn as to the probable future demand in Colombia for products such as plantation machinery?

2. What other factors should have influenced the company's decision as to attempting to stimulate sales of its products in Colombia?

XVIII

BALANCE OF PAYMENTS

Bye, 252-256, 265-271; Edie, 613-619, 652-662; Ely, 343-356; Fairchild, I, 551-565; Gide, 330-337, 752-756; Seligman, 547-551; Taussig, I, 467-478.

1. United States

INTERNATIONAL BALANCE OF TRADE[1]

The balance of trade of the United States up to the last few years may be summarized briefly by periods as follows:

Period	Years Included	Nature of Balance
First	1789-1820	Excess of imports balanced by profits of our merchant marine.
Second	1821-1837	Excess of imports increased by inflow of foreign capital.
Third	1838-1849	Excess of exports due to interest payments on foreign indebtedness.
Fourth	1850-1873	Excess of imports restored by growth of domestic gold production and by further inflow of foreign capital.
Fifth	1874-1895	Excess of exports definitely reestablished by growth of interest charges on foreign indebtedness.
Sixth	1896-1914	Excess of exports increased by tourists' expenditures and immigrants' remittances.
Seventh	1914-1918	Tremendous excess of exports for war purposes, paid for by imports of gold, return of American securities, and new loans abroad.

Our New Balance of Trade

In our prewar balance of trade the essential fact was that our excess of exports, of about $487,000,000 a year, was offset by sundry items of indebtedness, of which the chief were interest on foreign capital, immigrants' remittances, tourists' expenditures, and freight payments. The main conclusion from the foregoing study of the war balance is that during the war our huge surplus of exports, averaging $2,624,000,000, was offset chiefly by the export of capital, in the form of loans to foreign countries and the purchase of American securities from Europe.

[1] Adapted, by permission, from an article by Charles J. Bullock, John H. Williams, and Rufus S. Tucker, "The Balance of Trade of the United States," in the Harvard University Committee on Economic Research, *The Review of Economic Statistics,* Prel. Vol. 1, pp. 215-266, and from *Memorandum on Balance of Payments and Foreign Trade Balances, 1911-1925,* Vol. 1, League of Nations, Geneva, Second Impression, 1926, pp. 110 to 123.

Our enormous exports have been caused by abnormal needs, those of war; they have been financed by abnormal means, by American loans. . . . . A state of things so abnormal cannot continue indefinitely. . . . . To establish her solvency, Europe will bend her efforts to cut down imports to the barest essentials, stop borrowing, and increase her exports as a means of liquidating her debts to other countries, and especially to the United States.

. . . . . .

The important change in our balance of indebtedness is that in interest payments. A net outward payment of $160,000,000 has been supplemented by a net inward payment of $525,000,000 a year. This is the result of our large loans and of our purchase of foreign-held American securities. Its effect is to convert a net debit-balance of $525,000,000 into a net credit-balance of $195,000,000.

Our prewar debit-balance was paid by an excess of exports. The logical implication is that our present net credit-balance will induce an excess of imports; that there will be an overturn of the trade balance comparable with that of 1873, but this time a change to an "unfavorable," rather than to a "favorable," balance.

. . . . . .

. . . . Our net excess of credits is of comparatively small amount—about $200,000,000. Against our annual receipts of interest payments there are heavy charges, which may be expected to continue, and probably to increase. These are tourists' expenditures and immigrants' remittances. It has been shown that in the prewar period the astonishing growth of these items was chiefly responsible for the marked increase of our favorable trade balance which appeared in the late nineties and was afterward maintained. We have taken these items at their average prewar figure, $300,000,000. Allowing for their growth during the period, it is probable that their combined amount immediately prior to the war was nearer $400,000,000.[1] If we adopt this figure, the credit-balance is reduced to $95,000,000; and it is not inconceivable that a great movement of tourists to the battlefields of Europe, combined with remittances by immigrants stimulated by the present marked contrast between conditions of labor in the new and in some parts of the old world, will entirely wipe out for a time our credit balance on interest payments.

There is, further, the probability that for some years the net movement of capital will be from the United States rather than toward it. If the net outgoings of capital are $200,000,000 a year, they will more than suffice, when added to outgoings on the other items mentioned, to offset the annual inflow on interest account; while, if they greatly exceed this figure, they will enable this country to have a continued excess of exports. Eventually, the growing interest charge would be-

[1] J. Lawrence Laughlin estimates immigrants' remittances alone at $250,000,000. See *Credit of the Nations*, p. 341. This was also the figure given by C. F. Speare, as early as 1907.

come so large as to exceed the sum of new annual investments, tourists' expenditures, and immigrants' remittances; but that result would show itself only after some years. The immediate prospect is, however, that continued advances of American capital to European and other countries will provide the means of financing the large volume of exports which the world will apparently need.

. . . . . .

. . . . If upon our whole international account we are actually a creditor nation, then imports must presently exceed exports. But if, as appears to be the fact, we have a credit of five hundred or more millions upon interest account, and debits, of nearly the same total figure, on account of tourists' expenditures, immigrants' remittances, ship charges, and miscellaneous items, then all that is to be expected is that the present excess of exports will disappear and that commodity exports and imports will come to a balance. . . . .

If the United States is to become definitively a creditor nation upon its entire international account, that status can be reached only by continued export of capital, such as is still going on. Continued for two or three years at the rate of two or three billion dollars per annum, such a movement would pile up annual interest charges which would certainly make the United States a creditor country. But whether such a condition will actually be reached in two or ten years, and whether an excess of imports is to be expected within the former or within the latter period, cannot safely be predicted.

The items in the balance of trade of the United States, as reported by the League of Nations, for 1919-1925, were as indicated in the following quotations:

The Department of Commerce of the United States Government issued its first estimate of the balance of payments of the United States of America in 1923 for the transactions which took place during the previous year. Since then regular annual statements have been compiled. The form in which the tables are cast was somewhat modified last year.

On the opposite page is given a detailed statement for the four years 1922 to 1925 constructed on lines somewhat different from those in the sources from which it is extracted. A more condensed statement for the period 1919 to 1924 is printed on pages 280-281.

With reference to the estimates for 1922 and 1923 it should be remarked that the increase or decrease in credit or debit entries to the accounts of foreigners, bankers or merchants are excluded and therefore (together with any inaccuracies in the estimates) constitute the final debit or credit balance. This is the practice now normally adopted in the majority of countries—although in certain cases (as, for example, Sweden and Denmark) details concerning the bankers' floating balances are available. The 1923 report states that "there is no reason to suspect that any great change occurred in the unfunded balances during

(In Millions of Dollars)

	1922			1923			1924			1925		
	Credit	Debit	Balance	Credit	Debit	Balance	Credit	Debit	Balance	Credit	Debit	Balance
Merchandise	3,867	3,133	+734	4,208	3,819	+389	4,621	3,651	+970	4,934	4,268	+666
Gold	37	275	−238	29	323	−294	62	320	−258	262	128	+134
Silver	63	71	− 8	72	74	− 2	110	74	+ 36	99	65	+ 34
U. S. Currency	—	—	—	50	—	+ 50	—	50	− 50	—	62	− 62
Interest on Inter-Allied Debt	126	—	+126	167	—	+167	159	—	+159	160	—	+160
Private interest and dividends	350	125	+225	400	150	+250	455	150	+305	520	165	+355
Use of ships	71	64	+ 7	65	73	− 8	76	68	+ 8	75	83	− 8
Tourists	60	360	−300	100	500	−400	100	600	−500	100	660	−560
Government payments	—	16	− 16	—	19	− 19	—	5	− 5	—	5	− 5
Charity and missionary expenditure	—	400	−400	—	70	− 70	—	55	− 55	—	50	− 50
Immigrants' remittances				60	350	−290	—	300	−300	—	310	−310
Royalties of cinematograph industry	50	—	+ 50	60	—	+ 60	70	—	+ 70	75	—	+ 75
Total	4,624	4,444	+180	5,211	5,378	−287	5,653	5,273	+380	6,225	5,796	+429
Repayment of Inter-Allied debt	31	—		91	—		23	—		27	—	
Amortization of other foreign loans	78	—		23	—		45	—		140	—	
Sales and purchase of outstanding securities	216	326		412	54		319	114		411	90	
New foreign bonds issued	—	637		—	363		—	795		—	920	
Total capital items	325	963	−638	526	417	+109	387	909	−522	578	1,010	−432
Total	4,949	5,407	−458	5,737	5,795	− 58	6,040	6,182	−142	6,803	6,806	− 3
Changes in foreign bank deposits			+375			+ 3			+216			− 61
Balance representing errors and omissions			− 83			− 55			+ 74			− 64

the year" so that "the balance item on the debit side is very largely a reflection of the inaccuracy or incompleteness of the estimates and as such has no significance." On the other hand, the unfunded credit balances resulting from the foreign credits left over from the crisis of 1920 diminished to a very considerable extent during the year 1922. During this year accounts receivable from foreigners decreased by $313,000,000 and accounts payable increased by $62,000,000.

In the statements for 1924 and 1925 distinction has been made between the changes in floating balances and the balance representing errors and omissions. It will be observed that foreign deposits increased in the former year by $216,000,000, namely, from $505,000,000 to $721,000,000 and dropped $61,000,000 in 1925.

The statements now published are not quite identical with those contained in earlier issues of this Memorandum, as an estimate has been made of the net receipts by the United States of America on account of royalties received by the cinematograph industry.

Imports and Exports of Merchandise

The figures shown for imports and exports of merchandise are somewhat larger than those given in Volume II,[1] as they refer to general trade and include an allowance for unreported trade. The most important estimated import item is that of smuggled liquors, which is given as $20,000,000 for 1922, $30,000,000 for 1923, and $40,000,000 for 1924 and 1925. The estimate is confessedly based on inadequate evidence and is in the opinion of various authorities deemed to be decidedly low. It is believed that the consumption of smuggled liquor was probably lower in 1925 than in 1924, but that prices were higher. To exports have been added $42,000,000 in 1923, $30,000,000 in 1924, and $25,000,000 in 1925 on account of parcel post.

Gold and Silver

During the year 1925 gold exports exceeded gold imports by $134,000,000. But, whereas there was a net outflow of $150,000,000 during the first six months, during the last half of the year there was an import surplus of $16,000,000. The exports during the first part of the year were largely due to the heavy withdrawals of gold by the German Reichsbank.

Exports of Paper Money

The net export of American paper money is given as $50,000,000 for 1923 compared with nil for 1922.

This outward movement seems to have come to an end in the early part of 1924 and, according to the reports received from banks, imports of currency exceeded exports every month after March, the net excess of imports during the year being $50,000,000. The largest receipts were from Germany $32,000,000, United Kingdom $9,400,000, Netherlands $4,800,000, and Switzerland $3,700,000.

[1] Of the League's Memorandum.

For 1925 imports are given as $81,000,000 and exports as $19,000,000, leaving a positive balance of $62,000,000. The largest receipts and outgoings were as follows:

Germany	receipts	$22,000,000	Shipments	$3,000,000
United Kingdom	"	13,000,000	"	600,000
Netherlands	"	2,500,000	"	400,000
Switzerland	"	1,000,000	"	250,000
Italy	"	3,000,000	"	.....
Canada	"	2,000,000	"	.....
Latvia	"	.....	"	2,500,000

It is believed that the shipments to Latvia were destined for Russia. It is estimated that over $100,000,000 of American paper money is in circulation in Cuba and other parts of Latin America where American currency is legal tender.

Freights

It is estimated that 61.6% of the exports of the United States of America were carried on foreign vessels in 1922, 1923, and 1924 and 65.15% in 1925, and that of her imports 68.6% in 1923, 67.5% in 1924, and 69.03% in 1925 were so carried. Freight is given as 6% in both 1923 and 1924 of the value of the outgoing and 4% in both years of the incoming cargo. One-fifth of the gross freight liability thus incurred is deducted to cover port expenses.

The prices of American exports during the year 1925, according to the price index of export commodities, were 8.9% higher than in 1922. The figures supplied by the Shipping Board and a number of exporters and importers for the year 1922 indicated that freight charges averaged about 7% of the value of exports and 4.5% of the value of imports. The index of export shipping rates in the later year averaged about the same as in the earlier. Therefore the ratio of freight charges to the value of cargo in 1925 was about 6.4%, or $93,500,000. From this one-fifth is deducted for port expenses abroad, making the net sum receivable about $75,000,000.

By a similar process of reasoning it is concluded that the sum payable by the United States to foreign shipowners, after deducting port charges, was about $83,000,000. Therefore, on shipping services as a whole, there is a negative balance of about $8,000,000.

Immigrants' Remittances

These have been separated since 1922 from relief gifts and other charity on the grounds that, if it were not possible for the immigrants to make remittances, many of them would not come to the country and the remittances should consequently be considered as a necessary expense to American industry. The total number of persons of foreign birth resident in the United States is given as 15,000,000 and the total remittances as $350,000,000 in 1923, 1924, and 1925 compared with $400,000,000 in 1922. In 1922 $30,000,000, in 1923 $60,000,000, in 1924 $46,000,000, and in 1925 $40,000,000 have been deducted on account of money brought in by immigrants.

The number of declared immigrants entering the United States of America in 1925 was 290,725 as compared with 345,770 in 1924. These figures do not take into account "non-immigrant aliens" nor immigrants smuggled into the country.

The excess of reported alien arrivals over departures was 251,905 in 1925 and 295,000 in 1924. The new immigration law which went into force on July 1, 1924, is intended to discourage the immigration of individuals without their families and of laborers seeking temporary employment. It is expected to result in a diminution of the amounts sent abroad for the support of relatives. It is doubtful, however, whether it has had any considerable effect during the past year.

The approximate division of the remittances by country of destination in 1924 and in 1925 is given as follows:

	Millions of Dollars
Italy	100
Germany	80
Poland	30
Russia	25
Greece	20
Irish Free State	20

The figures are, of course, all estimates.

Tourists' Expenditure

The Bureau of Immigration keeps a record of American citizens leaving the country. They numbered 260,000 in 1923, 302,000 in 1924, and 356,155 in 1925, not including those visiting Canada. The average amount spent by each traveler was roughly estimated in 1923 at between $1,000 and $1,500 and the mean of these two figures accepted for the purpose of the calculation. Owing to the rise in retail prices and hotel charges in most countries in Europe this mean figure was raised for 1924 to $1,300. The average expenditure of American tourists in 1925, however, has been reduced to $1,200 on account of the fact that the minimum boat charges have been reduced and rendered it possible for persons of lesser means to travel abroad.

The total expenditure outside Canada on this account thus amounted to $375,000,000 in 1923, $420,000,000 in 1924, and $440,000,000 in 1925.

The Canadian expenditure is given as $100,000,000 in 1923, $150,000,000 in 1924, and $190,000,000 in 1925. To these sums are added $25,000,000 in 1923 and $30,000,000 in 1924 and 1925 for Americans residing more or less permanently abroad. The gross totals are thus $500,000,000, $600,000,000, and $660,000,000. Against this is set $100,000,000 in all three years for visitors to the United States of America.

Government Receipts and Expenditure

The details of these receipts and payments during 1924 and 1925 were as on the opposite page.

	1924		1925	
	Principal	Interest	Principal	Interest
Belgium	.....	$ 1,376,730.17	$ 875,839.30	$ 1,575,599.91
Czechoslovakia	.....	.....	1,500,000.00	.....
Esthonia	.....	.....	.....	1,441.88
Finland	$ 45,000.00	268,650.00	47,000.00	267,300.00
France	.....	20,367,057.25	.....	20,367,057.25
Great Britain	23,000,000.00	137,310,000.00	24,000,000.00	136,620,000.00
Hungary	9,672.50	30,056.18	10,018.00	44,498.94
Latvia	.....	.....	.....	4,562.78
Lithuania	.....	91,996.97	30,000.00	90,903.38
Nicaragua	35,000.00	5,168.09	49,513.86	10,189.92
Poland	.....	5,025.99	.....	864,534.32
Roumania	.....	.....	4,451.54	.....
Russia	.....	.....	.....	275.94
Total	$23,089,672.50	$159,454,684.65	$26,516,822.70	$159,846,364.30

These receipts have been distributed over different items of the balance sheet shown on page 271 above and not grouped together as in previous years.

The principal payments made abroad by the United States Government were as follows:

	1924	1925
Colombia (Treaty of 1914)	$5,000,000	$5,000,000
Panama (Treaty of 1903)	250,000	250,000
France (Relief of Mme. Crignier)	13,511	.....
Various international bureaux	50,508	56,072
Indemnities for collisions of American with foreign ships	.....	200,800
Total government expenditures	$5,314,019	$5,506,872

During the year 1925 the Italian Government invested $5,000,000 in United States bonds, which are included under "sales and purchases of outstanding securities." These bonds, it was understood, were to be applied as a payment on account of the principal of the Italian indebtedness due on June 15, 1926.

No account is taken of sums spent by the United States Government on account of diplomatic missions, ships of the American navy in foreign ports, and so forth, on the assumption that such expenditure must be approximately offset by consular fees collected abroad and the outgoings of the various governments in the United States.

Interest and Profits

The amount of foreign loans publicly issued in the United States of America and still outstanding, the estimated amount of other foreign

securities in the country and the interest derived therefrom, are given as follows:

	(In Millions of Dollars)					
	1924			1925		
	Principal	Rate† %	Interest	Principal	Rate† %	Interest
Foreign securities issued in U.S.A. and outstanding on January 1	3,717*	5.9	219	4,550*	5.9	244
Foreign government and government-guaranteed securities floated in U.S.A.	775	6.0	23‡	647	5.8	19‡
Foreign corporation securities floated in U.S.A. (excluding refunding)	103	6.5	3‡	384	6.4	12‡
Total	4,595	5.9	245	5,581	5.9	275
Deduct foreign loans paid off and not refunded	45	5.9	1‡	140	6.7	5‡
Balance	4,550	5.9	244	5,441	5.9	270

*Estimated.

†Average rates.

‡These items represent interest for a half-year only. Since the securities were issued at various dates during the year, it is assumed that the interest ran for half a year on the average, and one-half the yearly interest charge is therefore entered on the table.

To the above totals is added an estimate for profits from investments in foreign real estate, industrial enterprises, and foreign bonds. It is believed that total foreign investments were distributed approximately as on page 277 at the end of the years 1923, 1924, and 1925.

The estimates for 1923 and 1924 of American investments abroad have been revised and differ slightly from those published in previous issues of this Memorandum. The income derived from these investments as reproduced in the statement on page 271 has, however, not been modified, and stands as heretofore at $400,000,000 in 1923 and $455,000,000 in 1924. These sums are arrived at on the supposition that an average 5% was earned on the total investments as previously given. For 1925 a similar calculation is made, the income thus amounting to $520,000,000, to which is added $160,000,000 received by the United States Government for interest on its loans to the United Kingdom and other countries.

The amount of interest and dividends payable by the United States has been raised from $150,000,000 in 1924 to $165,000,000 in 1925 on the grounds that there was a slight increase of foreign investments in American securities and, secondly, that several industrial enterprises owned to a large extent by Europeans, particularly in the artificial silk industry, were exceptionally profitable during the latter year.

Royalties in the Cinematograph Industry.

Statistical data have now been collected in the United States con-

	(In Millions of Dollars)		
	Government-Guaranteed Obligations	Industrial Securities and Direct Investments	Total
At end of 1923 (revised):			
Europe	950	350	1,300
Latin America	610	3,150	3,760
Canada and Newfoundland	1,050	1,400	2,450
Asia, Australia, Africa, and rest of world	360	235	595
Total	2,970	5,135	8,105
At end of 1924 (revised):			
Europe	1,500	400	1,900
Latin America	840	3,200	4,040
Canada and Newfoundland	1,100	1,500	2,600
Asia, Australia, Africa, and rest of world	440	250	690
Total	3,880	5,350	9,230
At end of 1925:			
Europe	1,825	675	2,500
Latin America	910	3,300	4,210
Canada and Newfoundland	1,175	1,650	2,825
Asia, Australia, Africa, and rest of world	520	350	870
Total	4,430	5,975	10,405

cerning the royalties paid and received in connection with the cinematograph industry. From these it is estimated that the net receipts during the last five years were as follows:

1921	$40,000,000
1922	50,000,000
1923	60,000,000
1924	70,000,000
1925	75,000,000

Of the 1925 total it is believed that:

Canada	paid	$ 3,500,000
Europe	"	52,000,000
Latin America	"	7,500,000
Asia and rest of world	"	12,000,000
		$75,000,000

Capital Items

This account has undergone great fluctuations in recent years. During 1922 the import of securities, that is, loans granted abroad plus purchase of existing securities from abroad, exceeded the export and cancelation of securities by $638,000,000. In 1923, on the other hand, there was an export balance of $109,000,000. In 1924 and 1925, owing to the revival of foreign lending by the United States of America, there was again a large import balance. The following figures show the amount of the new foreign bond issues in the United States, or,

in other words, the amount which she has lent abroad during the last 7 years and in the second column the balance during the same period of the whole capital account.

	(In Millions of Dollars)	
	New Foreign Bond Issues	Balance of Capital Account
1919	436	−455
1920	506	−874
1921	665	−789
1922	637	−638
1923	363	+109
1924	795	−522
1925	920	−432

The estimates of the new issues of foreign securities exclude long-term loans not offered for public subscription and are net in the sense that refunding of old loans, the difference between the par and the issue price and bankers' commissions are all deducted. They represent, therefore, the amount actually entering into the balance of payments either by transfer of funds or by the establishment of credit balances in American banks. The greater part of the securities issued in 1924, namely 88%, were government bonds. In 1925 this percentage was reduced to 63%, and the total par value of new corporate issues amounted to $384,000,000, or nearly four times as much as in the previous year.

The total par value of all issues publicly issued during the year 1925 was $1,275,000,000, of which $244,000,000 was on account of refunding old loans. The par value of loans to Europe, excluding refunding issues, was slightly over $612,000,000, of which $405,000,000 represented government or government-guaranteed stock and $207,000,000, securities of private corporations.

. . . . . .

The data concerning sales of outstanding securities to foreigners and purchases of outstanding securities from foreigners are based on replies to special questionnaires sent out to leading financial institutions in certain countries. The revised results obtained from these questionnaires in recent years are as follows:

	(In Millions of Dollars)				
	1921	1922	1923	1924	1925
Imports	253	326	54	114	90
Exports	73	216	412	319	411

The figures are not believed to be complete, but they indicate the growing preference of American investors for bonds payable in dollars,

and the increasing extent to which other (especially European) investors have bought American securities or bought back their own bonds issued in the United States.

Balance of Payments by Continents

In the reports for 1924 and 1925 an attempt is made to show the balance of trade by continents in the following table. Only net items are shown and all items under $1,000,000 or which cannot be allocated to a specific region are omitted.

Net Credits	1924	1925	Net Debits	1924	1925
EUROPE					
Merchandise	1,349	1,365*	Gold	184	...
Gold	...	18	New bonds	493	546
Silver	24	14	Tourists	350	370
Royalties, cinematograph industry	...	52	Immigrants	250	260
Loans repaid	25	119	Missionaries	10	2
Securities sold	142	226	Charity		6
Interest and dividends	129	145	United States currency	50	44
Total	1,669	1,939	Total	1,337	1,228
NORTH AMERICA					
Merchandise	95	159*	Silver	51	48
Gold	...	15	Gold	42	...
Royalties, cinematograph industry	...	7	New bonds	156	116
Loans repaid	38	7	Tourists	136	190
Securities sold	60	90	Missionaries	...	2
Interest and dividends	224	226	Charity	...	1
			United States currency	...	18
Total	417	504	Total	385	375
SOUTH AMERICA					
Gold	...	9	Merchandise	152	116*
Royalties, cinematograph industry	...	4	Silver	12	10
Loans repaid	5	33	Gold	28	...
Securities sold	1	2	New bonds	83	124
Interest and dividends	96	100	Missionaries	...	2
			Charity	...	1
			Treaty repayments	5	5
Total	102	148	Total	280	258
ASIA					
Gold	2	66	Merchandise	416	835*
Silver	79	79	New bonds	...	60
Royalties, cinematograph industry	...	6	Immigrants	30	35
Loans repaid	...	8	Missionaries	...	24
Securities sold	2	3	Charity	10	7
Interest and dividends	35	40			
Total	118	202	Total	456	961
OCEANIA					
Merchandise	108	111*	Gold	3	...
Gold	...	27	New bonds	...	74
Royalties, cinematograph industry	...	5	Missionaries	...	1
Interest and dividends	...	2			
Total	108	145		3	75
AFRICA					
Royalties, cinematograph industry	...	1	Merchandise	3	3*
Interest and dividends	...	2	Gold	2	...
			Missionaries	...	3
Total	...	3	Total	5	6

*$25,000,000 of estimated unrecorded parcel-post packages, $40,000,000 of smuggled goods, and the net debit of $8,000,000 of freight payments are not apportioned in this table.

Items	(IN MILLIONS OF DOLLARS)						
	1919	1920	1921	1922	1923	1924	1925
*Credits**							
Current items, visible:							
Exports of merchandise (net)	4,016	2,950	1,976	734	389	970	666
Exports of gold (net)	160	—	—	—	—	—	134
Exports of silver (net)	152	26	—	—	—	36	34
Exports of United States currency (net)	91	103	—	—	50	—	—
Current items, invisible:							
Interest on foreign investments (net)	50	50	80	351†	417†	464†	515†
Ocean freight payments (net)	93	93	33	7	—	8	—
Total	4,562	3,222	2,089	1,092	856	1,478	1,349
Capital items:							
Foreign loans paid off	515	571	255	78	23	45	140
Sales of securities to foreigners	—	—	48	216	412	319	411
Principal of debts to United States Government	—	—	—	31	91	23	27
Total	515	571	303	325	526	387	578
Total credits	5,077	3,793	2,392	1,417	1,382	1,865	1,927

*Estimates for royalties of cinematograph industry are not included. They were made for the first time in 1925.
†Includes interest received by United States Government from foreign governments.

Items	(In Millions of Dollars)						
	1919	1920	1921	1922	1923	1924	1925
Debits							
Current items, visible:							
Imports of gold (net)	—	50	667	238	294	258	—
Imports of silver (net)	—	—	11	8	2	—	—
Imports of United States currency (net)	—	—	100	—	—	50	62
Current items, invisible:							
Governmental expenditures abroad	2,375	305	50	16	19	5	5
Ocean freight payments (net)	—	—	—	—	8	—	8
Immigrants' remittances (net) and charity	600	700	500	400	360	355	360
Tourists' expenditures (net)	50	150	200	300	400	500	560
Total	3,025	1,205	1,528	962	1,083	1,168	995
Capital items:							
New foreign bond issues in the United States*	436	506	665	637	363	795	920
Other foreign investments of American capital	534	939	427	326†	54†	114†	90†
Total	970	1,445	1,092	963	417	909	1,010
Total debits	3,995	2,650	2,620	1,925	1,500	2,077	2,005
Excess of credits (+) or debits (−) on current transactions	+1,537	+2,017	+ 561	+ 130	− 227	+ 310	+ 354
Excess of credits or debits on capital transactions	− 455	− 874	− 789	− 638	+ 109	− 522	− 432
Excess of credits or debits on all transactions of the year	+1,082	+1,143	− 228	− 508	− 118	− 212	− 78
Net change in foreigners' bank deposits and book accounts as revealed by questionnaires				+ 375	+ 3	+ 216	− 61
Balance representing errors and omissions				− 133	− 115	+ 4	− 139

†Securities only. *The data given for 1919, 1920, and 1921 are not comparable with each other nor with those for later years.

The particular interest of this table lies in the evidence it affords of the character of the American triangular trade and the manner in which the payments by the United States to South America, Asia, and Africa are met by means of credits in Europe, North America, and Oceania.

Unfunded Credit Balance

As in the three preceding years, the table of international payments in 1925 shows again an excess of debits over credits, this time amounting to only $3,000,000, as contrasted with the revised debit balances of $458,000,000 in 1922, $58,000,000 in 1923, and $142,000,000 in 1924. In those years the most satisfactory explanation of the excess was found in the assumed reduction in the "unfunded credit balance" —that is, the excess of amounts owed to over amounts owing by the United States, as shown on the books of bankers and merchants. The returns from questionnaires sent out to bankers and others concerned apparently showed that this assumption was justified, as totals of $375,000,000 for 1922, $3,000,000 for 1923, and $216,000,000 for 1924 were obtained, showing increases in foreigners' bank deposits in the United States during those years. Since such increases constitute invisible exports, they serve to reduce the estimated debit balances. But in 1925 the results of questionnaires sent to 186 banks showed that foreigners' bank deposits in the United States declined from $909,000,000 on December 31, 1924, to $848,000,000 at the end of 1925—a net invisible import of $61,000,000, which, instead of reducing the small debit balance of $3,000,000, increased it to $64,000,000, which is less than 1% of either of the two totals.

Too much stress cannot be placed on this close balance, as there were a few important banks that did not report, and no attempt was made to obtain reports from manufacturers and export houses. It is as yet practically impossible to obtain adequate data on international open accounts.

1. Why did the United States have an excess of imports prior to 1873? What forces operated to change this condition?

2. What is the short run effect of the large foreign loans floated in the United States during recent years (estimated at about $1,000,000,000 per year)? The long run effect?

3. How does the popularity of European travel affect the trade balance? The curtailment of immigration to the United States?

4. Why, under the National Banking System, was an "unfavorable" balance of trade likely to result in a rise of interest rates? How does the Federal Reserve system tend to obviate this difficulty?

5. Is an "unfavorable" balance of trade necessarily a bad sign for American business? A good sign?

XIX

BILLS OF EXCHANGE

Black, 682-686; Bye, 256-265; Clay, 209-213; Edie, 619-651; Ely, 340-343; Fairchild, I, 534-550; Gide, 440-446; Rufener, 624-644; Seager, 378-386; Seligman, 551-556; Taussig, I, 447-466.

1. Hamlen Upholstery Company

FINANCING EXPORTS

As a result of its decision to secure bank advances against its drafts on foreign customers instead of sending such drafts forward for collection, the Hamlen Upholstery Company considered whether it should pay the interest on these advances or whether the interest should be charged to the customer.

The office of the Hamlen Upholstery Company, which manufactured artificial leather, waterproof cloth, and other varieties of upholstery, was in Boston. The company controlled several mills in different parts of New England. In addition to its distribution in the United States, the company sold its products in several foreign countries. The company had no export manager. Its export sales had been developed under the supervision of an official whose primary duties were in connection with other departments, and who, accordingly, had relatively little time to devote to foreign selling. The company's export sales in 1923 amounted to nearly $500,000, which was about 2% of total sales.

In the Far East the company sold through a manufacturers' representative who placed no orders for his own account but secured orders from wholesalers on a commission basis. The company followed a similar sales method in Australasia. In Scandinavia the company sold to an exclusive wholesale agent who carried stocks and distributed them in Norway, Sweden, and Denmark. The company sold in no other European countries. In the South American countries in which it made sales, the company was represented by exclusive resident agents whom it paid on a commission basis.

In making shipments to foreign customers, the Hamlen Upholstery Company ordinarily drew 30-day or 60-day drafts known as bills of exchange, on the purchasers. Export sales had developed so casually and formed so small a part of total sales that the company never had considered securing advances from its bank on these drafts on foreign customers. The company always had sent such drafts forward for collection. On many foreign sales, the company did not receive payments for several months after the goods were shipped. On a 60-day draft on a customer in Java, for example, fully 6 months elapsed between the drawing of the draft and the arrival of the funds in New York; on a 60-day draft on a customer in Buenos Aires, more than 3 months elapsed.

In 1924, because it appeared that its foreign sales would continue to increase, the company decided to secure bank advances against the drafts on foreign purchasers. The strong financial position of the company would make such a policy practicable without regard to the standing of the customers on whom the drafts were drawn.

When a manufacturer secured a bank advance against a foreign draft, the bank at once credited the amount of the advance to the manufacturer's account. Ordinarily, the full amount of the draft was advanced. Banks charged a commission, ranging from 1/10 of 1% to ½ of 1% for making such advances. This commission was intended as a service charge to cover the expenses of handling a draft. If the draft was in a foreign currency, the bank made allowance for such a commission, as well as for interest on the advance, if paid by the drawer, in fixing the rate of exchange at which the proceeds of the draft were converted. Occasionally, banks purchased foreign drafts outright, but this practice was becoming rare. In such a case, interest on the amount of the draft from the date of purchase to the date of receipt of the funds was figured in the purchase price.[1] In any event, when a bank made an advance against a draft,

[1] It should be noted that in actual practice the terms "selling a draft" and "discounting a draft" are used somewhat loosely. Strictly speaking, a bank does not buy a draft except in the case of an outright purchase without recourse. The bank then is subrogated to all the rights of the drawer. Similarly, a bank discounts a draft only when it deducts the interest charge before crediting the drawer. If the interest charge is made separately or is borne by the purchaser, the bank, properly speaking, is neither buying the draft nor discounting it, but simply making an advance against it.

the manufacturer received immediate possession of the funds, and the bank charged interest on the amount advanced from the date of the advance to the date of the receipt of the actual proceeds of the draft. This interest charge might be borne by the manufacturer or by the purchaser on whom the draft was drawn. The Hamlen Upholstery Company deliberated as to what policy it should follow in this respect.

In the Far East, importing merchants paid interest charges on drafts as a matter of course, and banks with branches in the Far East included interest as one of the regular items on their charge sheets to resident purchasers. In Europe the practice varied; in some instances the interest charges on the drafts were paid by the manufacturers and in others by the purchasers. The Hamlen Upholstery Company's exclusive agent in Scandinavia made payments by funds cabled to New York prior to shipment. Merchant importers in South America, for the most part, were not accustomed to paying interest charges. Most English and German manufacturers did not charge interest to their South American customers. American manufacturers, especially those selling highly competitive lines, generally had followed this lead. The Hamlen Upholstery Company was one of the largest of its kind in the United States, but there were at least five competing manufacturers who sold their products in foreign countries and whose competition the company had to take into account.

The Hamlen Upholstery Company knew that many manufacturers followed a uniform practice, either paying the interest in all cases or charging it forward in all cases. Generally, manufacturers who paid the interest on drafts drawn on foreign purchases either added enough to their export quotations to cover the amount of the interest or else operated on margins of profit large enough to absorb that amount.

The Hamlen Upholstery Company concluded that, in view of its widely distributed markets, the competition which it had to meet, and the variations in the policies of manufacturers and in the customs of countries in regard to the payments of interest charges, the wisest plan was for the company not to establish a uniform policy but to vary its practice in accordance with the trade usages of particular markets and with conditions of competition.

Should the company have continued to arrange for payments on its foreign bills of exchange through banks, or should it have attempted to obtain payment directly from its customers?

2. The Porter National Bank

BULLION SHIPMENTS

The Porter National Bank was a New York bank which in the past had confined itself exclusively to conducting a commercial banking business. It had not operated a securities department, a trust department, a transfer or a registry department, or a foreign exchange department. The operations of its foreign department had been limited to those necessary to finance the exports and imports of its domestic commercial customers. This bank had capital and surplus of $20,000,000, and deposits of $160,000,000.

Mr. F. J. Bishop, the manager of the foreign department of the bank, became interested in bullion shipments in the summer of 1921, and accordingly asked a friend of his, who was the head of the foreign department of another large New York bank with which the Porter National Bank was on the closest terms of friendship, to prepare a report for him, giving the details of the operations incident to bullion shipments, in order that he might submit such a report to the board of directors of the Porter National Bank. Mr. Bishop's friend accordingly sent him within the next few days the following report:

Gold operations are confined to those countries which place no restrictions on its free import and export, and usually are restricted to the settlement of such international trade balances as remain after the settlements effected by means of bills of exchange.[1]

[1] "In response to the conditions of demand for and supply of bills of exchange (represented respectively by those who owe payments abroad, and those who receive payments from abroad), exchange fluctuates within the narrow limits of the 'gold points,' and cannot depart farther from par, for the reason that with the rate at specie point it becomes cheaper to make or receive payment (as the case may be) in gold, including cost of carriage overseas, than by bills of exchange. Gold thus flows out of or into the given country according as exchange is at the gold export point (unfavorable to importers and other debtors to the outside world) or at gold import point (unfavorable to exporters and other creditors of the outside world). Such, very baldly, is the basic principle of the exchanges in peace times. In practice, important modifications need to be made. Exchange rates fluctuate and gold flows between countries not merely in response to the movements of the balance of international payments, but also in response to fluctuations in interest rates in the important money centers. When money is 'easy' in some centers and

There is no safer banking transaction than a gold transaction, in that the question of credit is not injected therein, *nor one more liquid* owing to the facility with which it may be financed. So long as the American dollar is synonymous with gold, so long will a purchase of gold in a foreign point signify a purchase of dollars at that point, and the bullion operator need only determine whether it is possible for him to buy abroad dollars in the form of gold at a figure permitting him to lay these dollars in New York at a profit.

The price of gold is expressed in terms of the currency of the nation wherein the gold is quoted; hence, a gold transaction with Bombay involves an exchange operation owing to the fact that we depart from dollars and must return to dollars via the Indian currency. For example: Bombay quotes gold in rupees per tola (which is an Indian weight) of 180 grains; it becomes necessary to determine the exact rate of exchange at which we may convert our dollars into the rupees needed for the purchase of the gold which we desire to import from Bombay and, as $20.67 is the fixed price of an ounce of fine gold in the United States and as 3 ounces of 480 grains are equal to 6 tolas of 180 grains, we can readily figure our rate by means of a constant which is the product of immovable factors. This constant is arrived at as follows:

$$\$20.67 = 1 \text{ ounce}$$
$$\text{Ozs. } 3 = 8 \text{ tolas}$$
$$\text{Therefore: } \$1 = \frac{8}{\$20.67 \times 3} = .012901 \text{ tola constant}$$

Five weeks are needed to bring gold from Bombay via England, but to be on the safe side we figure six weeks. We must therefore com-

interest rates are rising higher elsewhere, bankers arrange temporary transfers of credits to take advantage of the situation. Likewise, pronounced seasonal variations in the trade between countries are anticipated and to some extent offset by an interchange of finance bills among international banks. By arbitrage operations, whether of buying or selling, advantage is taken of any temporary difference between the exchange quotation at one place and its counterpart at another. Speculative dealers in exchange buy for the rise and sell for the fall, on narrow margins of fluctuation. Balances of payments are settled in large part by the flow of securities and other forms of credit. Balances between any two countries are frequently settled by means of exchange upon a third country. If, for instance, France should owe the United States but had a favorable balance with England, and if the United States should owe England, France would pay the United States by giving drafts on London, and would thereby collect her credits and settle her debits by one operation. Arbitrage transactions even more roundabout than this three-cornered operation are frequently resorted to in order to avoid shipping gold. Moreover, gold movements may be, and commonly are, induced or checked as occasion requires by the simple expedient of lowering or raising the discount rate. In general, the devices of bankers for settling balances are so manifold and complex that actual gold shipments are an inconsiderable item in normal times. Nevertheless, gold parity and the gold points constitute the basis of the exchanges, and where balances of indebtedness run one way for any considerable length of time or in any considerable magnitude, they compel a resort to gold shipments as the ultimate corrective." Charles J. Bullock, John H. Williams, and Rufus S. Tucker, "The Balance of Trade of the United States," *The Review of Economic Statistics,* Prel. Vol. 1, pp. 238-239.

pute our costs, including six weeks' interest on the funds utilized, as follows:

Freight	¾%	.75
Insurance	.17%	.17
Handling Bombay	1/16%	.0625
Handling New York	.05%	.05
Interest	6 wks. @ 8% p/a	1.0
Incidentals		.0925
		2.125 or 2⅛%

If we add the 2⅛% costs to our constant, that figure will be changed from 12901 to 13175, which latter figure, when multiplied by the price of gold in Bombay, will give us the rupee rate at which it is possible to move gold from Bombay to New York on an 8% basis. Any improvement on that rate constitutes additional profit.

On receipt of our order that he buy gold provided he can sell dollar exchange at 1330 constant, our Bombay representative went to the gold market where the yellow metal was quoted on July 7, 1921, at about 31¾. This price multiplied by our constant permitted him to sell dollars at 422¼. Having found demand for dollars at about that figure he operated and cabled us

> "SOLD $40,000 AT 422 AND $60,000 AT 422½ against WHICH BOUGHT 5,000 TOLAS AT 31 23/32 AND 8,300 TOLAS 31¾."

The operation works out as follows:

BOMBAY

	Cr.	Dr.
Sold—$40,000 TT on N.Y. @ 422	Rps. 168,800	
60,000 " " " @ 422½	" 253,500	
	Rps. 422,300	
Bought—5,000 Tolas fine gold @ Rps. 31 23/32		Rps. 158,594
8,300 " " " @ " 31¾		" 263,525
Plus 2⅛% laying down costs		" 8,970
		Rps. 431,089
Debit Balance	Rps. 8,789	
	Rps. 431,089	Rps. 431,089

NEW YORK

Paid for Rps. 422,300—as above		$100,000.00
Debit Balance Rps. 8,789. @ 23½		2,065.41
Received for 4,987.5 ozs. fine @ $20.67 per oz.	$103,091.62	
	$103,091.62	$102,065.41
Profit		1,026.21
	$103,091.62	$103,091.62

It will be seen from the above that the net profit on the transaction is roughly $1,000 on $100,000 utilized for six weeks which is equal to 9% per annum on the money. With this added to the 8% already figured in the costs, it is evident that $100,000 has been invested at 17% for a period of six weeks. Needless to add that this operation can be readily financed in the discount market by means of acceptances which cover an import of gold into the United States.

Under what conditions would the Porter National Bank have found it desirable to make shipments of gold?

3. Anglo-Asiatic Bank

FOREIGN EXCHANGE ARBITRAGE TRANSACTION

The Anglo-Asiatic Bank maintained its head office in New York City and carried on a commercial banking business with all parts of the world. In many cities of Europe, Asia, and South America, the company had established its own offices, and in others it was represented by agents and correspondents. A large part of the business consisted in caring for the financial needs of business transactions and of travelers. In addition to this, the bank bought and sold drafts and money transfers in all countries. In connection with operations in Asia, the bank continually sold in the United States, to travelers and others, drafts and travelers' checks for payment in Hong Kong in Hong Kong dollars. In order to provide for the payment of such drafts and checks on presentation, the bank from time to time transferred funds from New York to Hong Kong. On December 11, 1924, the bank was considering the transfer for this purpose of approximately $70,000 in United States currency. In making such transfers, it always was important to watch exchange rates closely in order to take advantage of all possible variations and fluctuations, and to secure for the money expended the greatest possible return in Hong Kong dollars.

In China, exchange quotations were subject not only to the usual factors of supply of and demand for bills of exchange, interest rates, and other charges, but also to the fact that Chinese currency was on a silver basis. The comparative market values of gold and silver metal, therefore, were a further cause of exchange fluctuations between China and gold standard countries such as the United States. The tael was the standard unit of

value in local business. It represented a weight of silver of a certain fineness, but varied in value throughout the country because of local variations in weight and fineness.

The actual currency used was the silver dollar, but the number of silver dollars equivalent to a tael fluctuated constantly. There were, furthermore, a number of different dollars, such as those at Shanghai, Hong Kong, and Tientsin. These silver dollars were not of equal value, because they contained different amounts of silver, of varying degrees of fineness.

On the day in question, the following selling rates were at hand:

EXCHANGE RATES DECEMBER 11, 1924*

London-New York	4.69¼	New York-Shanghai	.77
London-Shanghai	3/3 3/16	New York-Hong Kong	.56 3/16
London-Hong Kong	2/4¾	Shanghai-Hong Kong	72 15/16

*In quoting exchange rates, the accepted practice is to quote the London-New York rate in dollars and cents to the pound. A rate of 4.69¼, for example, means that the pound sterling is worth $4.6925. In rates between London and the Far East, quotations are in sterling. A London-Shanghai rate of 3/3 3/16, for example, means that the Shanghai tael is quoted at 3*s*, 3 3/16 *d*. Rates between New York and the Far East are quoted in United States cents. A New York-Shanghai rate of .77 means that the Shanghai tael is worth 77 United States cents. Rates between Shanghai and Hong Kong are quoted in Shanghai cents, so that a rate of 72 15/16 means that the Hong Kong dollar is worth 72 15/16 Shanghai cents.

In putting through actual transactions, however, the bank realized that the rates obtained would be those prevalent at the time of receiving cabled instructions, which in most instances would be the current rates for the following day. On the basis of the quoted rates, the New York-Hong Kong rate was .56 3/16 (.5619). Figures prepared from the other rates showed that by purchasing sterling in London and selling the sterling in Hong Kong, a rate could be obtained quivalent to .5626, a less advantageous rate than the direct New York-Hong Kong quotation. By buying sterling in London, however, selling the sterling in Shanghai, and then selling the Shanghai taels in Hong Kong, the rate worked out at .5592, a distinctly more favorable rate than either the direct rate or the rate by way of London. Observation of market conditions and exchange fluctuations during the few preceding days convinced the bank that fluctuation during the next 24 hours probably would not be sufficient to vary this rate appreciably. The bank accordingly decided to place dollars in Hong Kong by way of London and Shanghai.

Instructions were issued to purchase 15,000 pounds sterling; the London office of the bank was cabled to sell this sterling in

Shanghai; and the Shanghai office was instructed to dispose of the Shanghai taels in Hong Kong for Hong Kong dollars. By the time this transaction was completed, rates had changed slightly. The actual rates at which the transaction was made follow:

EXCHANGE RATES DECEMBER 12, 1924

London-New York	4.68 3/8	New York-Shanghai	.77
London-Shanghai	3/3 3/8	New York-Hong Kong	.56 3/16
London-Hong Kong	2/4 11/16	Shanghai-Hong Kong	.72 27/32

Under these rates, 15,000 pounds sterling was bought for $70,256.25. The sterling was converted into Shanghai taels at the current rate and produced taels 91,428.57. These taels were sold in Hong Kong at the current rate and produced, in Hong Kong dollars, $125,515.21. The complete transaction worked out at a rate of .5597 as against the direct rate of .56 3/16 (.5619).

1. If similar transactions were carried on by other banks on a large scale, what would have been the effect upon each of the exchange rates quoted?

2. How would a sudden fall in the price of silver have influenced future transactions of this type?

4. QUABOAG HOSIERY COMPANY

QUOTING PRICES UNDER VARYING EXCHANGE RATES

The Quaboag Hosiery Company, located in northern New Jersey, was a well-known producer of men's, women's, and children's stockings. Its sales emphasis was upon hosiery to retail in the United States for 75 cents and $1.

The Quaboag Hosiery Company had begun to sell hosiery in the British Isles in 1913, and had built up a substantial goodwill there. Until 1917, two agents had represented the company in England: one in London, who also had served Scotland, Ireland, and Wales; and the other in Manchester, who served the remainder of the territory. The company's annual sales in dozens and in dollars in the English market, from 1915 to 1924, are given in Exhibit 1. Early in 1925 a marked change in the rate of exchange between English and United States money forced the

EXHIBIT 1

ANNUAL SALES OF QUABOAG HOSIERY COMPANY IN THE ENGLISH MARKET, 1915 TO 1924, INCLUSIVE

Year	Sales in Dozens of Pairs	Sales in Dollars
1915	605,683	$ 918,341
1916	642,941	1,082,098
1917	279,379	723,633
1918	144,195	560,585
1919	415,319	1,789,813
1920	254,174	1,247,311
1921	121,996	478,278
1922	319,027	886,854
1923	98,506	357,665
1924	146,230	596,221

company to consider changing the prices on merchandise already sold, but not delivered, to English buyers.

The Quaboag Hosiery Company was able to sell only women's hosiery in the English market. For men's and children's wear, only stockings of wool were in much demand, and the Quaboag Hosiery Company could not market woolen hosiery in the English market in competition with local manufacturers.

In the last 5 months of 1924, English customers placed orders with the Quaboag Hosiery Company for 117,595 dozen pairs of stockings, most of which were for delivery in the spring of 1925.

Prices to English wholesalers were quoted by the company on the basis of its prevailing prices in the United States plus all transportation and other charges incident to making delivery in London. Total selling prices then were billed in English money, pounds sterling, according to the current rate of exchange. English buyers usually remitted payments about 10 days after receiving shipments. For the orders in question, the exchange value of the pound sterling was figured at the then current rate of $4.40.

British currency had been for several years, as a result of war conditions, upon a depreciated paper currency basis,[1] whereas in the United States gold specie was the basis of payments.

By February, 1925, while the greater part of the orders received late in 1924 were yet undelivered, the exchange value of the pound sterling had risen to $4.80, and it was predicted that the pound sterling soon would recover its former parity value of

[1] See case of France, page 180.

$4.8665. Since the hosiery was to be paid for in sterling upon delivery in London, the Quaboag Hosiery Company would realize an extra profit of about 9% on the hosiery not yet delivered, if it made no change in the prices stipulated in its contracts.

Many of the English wholesalers who had ordered Quaboag hosiery expressed fear that, because of the appreciation of the value of exchange, the manufacturing company would reduce its prices to English customers. If it did so, English wholesalers who had not placed orders would be able to purchase Quaboag hosiery at lower prices than those paid by wholesalers who already had ordered. If the Quaboag Hosiery Company maintained its prices, however, American competitors, by quoting lower prices, were likely to secure a number of its English customers. For the Quaboag Hosiery Company to maintain prices, therefore, might endanger its position in the English market.

1. What should have been the company's decision?
2. Should the company have favored a return to the gold standard in England, with sterling to be at parity?

5. Sapulpa Company

PURCHASING IN FOREIGN COUNTRY HAVING DEPRECIATED CURRENCY

The Sapulpa Company was an importer of toys and bead novelties of china and glass. For several years previous to 1914 it had made annual purchases of about $50,000 in Germany, and domestic purchases were of about equal size. From 1915 to 1919 war conditions prevented the company from making purchases in Germany. In 1920 it purchased to an amount of about $20,000, from samples mailed from Germany, and planned to renew, in the spring of 1921, its prewar custom of sending a buyer to Germany to make purchases amounting to about $50,000.

Most kinds of toys, especially dolls, chinaware, musical toys, and cheap handmade toys, could be produced more cheaply in Germany than in the United States. Previous to 1914 German toys, although bearing a 35% ad valorem duty, could compete favorably with American-made goods. Duplicates of many German toys, however, were not made in the United States. In 1919 and 1920 the cost of American-made toys was from 100%

to 200% higher than the cost of similar toys made in Germany. The German mark, which at gold par was worth 23.82 cents, had dropped to an average of 3 cents in 1919, and 1.8 cents in 1920.[1] The price level in Germany, in 1920 and early 1921, had not risen in proportion to the fall of the mark, and thus there was a lag in the parity between the purchasing powers of the mark and the United States dollar. Quotations in German paper marks made the importation of toys appear unusually profitable.

In December, 1920, and January, 1921, there was nation-wide agitation over tariff revision. A change of administration from Democratic to Republican was to take place in March, and the Ways and Means Committee of the House of Representatives was already working on the revision. An emergency tariff bill had been introduced into the House of Representatives on December 20, 1920, and there were rumors of radical tariff legislation soon to be proposed. The company decided to postpone its purchasing in Germany, until the new tariff bill should be passed or until a definite policy of tariff legislation should be determined. The emergency tariff bill passed the House of Representatives and the Senate, but was vetoed by President Wilson on March 3, 1921. The company then decided to postpone its purchases until after the 67th Congress assembled, because it believed the risk of loss through tariff legislation was not justified by the possibility of increased profits.

1. Aside from tariff considerations, should the Sapulpa Company have delayed longer in making its purchases in Germany?

[1] See case of France, page 180.

XX

TARIFF PROBLEMS

Bye, 275-280; Edie, 685-705; Ely, 364-381; Fairchild, II, 433-452; Gide, 344-377; Rufener, 667-693, 789-792; Seager, 402-421; Seligman, 556-571; Taussig, I, 507-544.

1. Methanol

CHANGE IN IMPORT DUTY

In a report submitted by the United States Tariff Commission to the President of the United States in October, 1926, the following statements, among others, were made[1]:

On July 24, 1925, the Tariff Commission ordered an investigation for the purposes of Section 315 of Title III of the Tariff Act of 1922, with respect to the costs of production of methanol. The National Wood Chemical Association had applied for an investigation . . . . with a view to an increase in the duty on methanol.

Public notice in the usual form of the institution of the investigation was given by posting in the Washington and New York offices of the commission and by publication in Treasury Decisions and Commerce Reports. . . . .

After giving due notice as required by law, a public hearing was held . . . . at which all parties interested were given reasonable opportunity to be present, to produce evidence, and to be heard with regard to the differences in costs of production and all other facts and conditions enumerated in Section 315 . . . . as they apply to methanol. Prior to the hearing a preliminary statement of information concerning cost data was furnished to interested parties. Briefs were filed on July 12, 1926, by the attorney for the applicants, and on July 14, 1926, by attorneys for the importers.

. . . . . .

Methanol, the commercial name for methyl or wood alcohol, wood spirit, or wood naphtha, is a colorless liquid . . . . produced in conjunction with other products by the destructive distillation of hardwood or synthetically by hydrogenating oxides of carbon.

The chief uses of refined methanol are in the manufacture of formal-

[1] Adapted from United States Tariff Commission, Report to the President of the United States, *Methanol*, 1927.

dehyde and of dimethylaniline, both used for making coal-tar dyes. It also serves as a solvent in the pyroxylin plastics industry (celluloid, films, and artificial leathers) . . . . Synthetic methanol, so far produced commercially only in Germany, is equal in quality to the best grade of refined methanol distilled from wood. . . . .

In the wood distillation process, methanol and various other products are obtained by heating hardwood in closed retorts and condensing and purifying the gases given off . . . . 807,000 cords of hardwood were used in this process in the United States in 1925. In wood distillation the waste materials such as tops, limb wood, and sawmill scrap are generally used.

The raw materials used in the synthetic process are hydrogen and carbon monoxide, both contained in water gas, which is produced from coal or coke. Combining these materials by the use of a suitable catalytic agent under proper conditions of pressure and temperature produces methanol.

. . . . . .

Ordinarily a cord of seasoned hardwood will yield, in addition to 8 to 11 gallons of crude methanol, 160 to 210 pounds of acetate of lime, 45 to 50 bushels of charcoal, and considerable quantities of tar and combustible gases which are used for fuel.

. . . . . .

The wood distillation industry is encountering competition not only on methanol but on its other final products. Acetic acid made from acetate of lime has a competitor in synthetic acetic acid . . . . equal in purity and concentration to the highest grade made from acetate of lime. The synthetic process was developed in Germany before the war, but competition on the American market has come mainly from a Canadian plant . . . . built during the war. In the Tariff Act of 1922 a duty of 2 cents per pound was placed on concentrated acetic acid, which, in the Act of 1913, had been on the free list. Further competition from synthetic acetic acid may result from the erection of a plant at Niagara Falls, New York. . . . .

Again, acetate of lime is no longer the only raw material for acetone, which is now obtained in large quantities as a by-product in the production of butyl alcohol by the fermentation of cornstarch—a development by a domestic corporation in Indiana. The price of acetone has been greatly depressed as a result of this new process.

Thus it appears that the wood distillation industry is subjected to competition on all its major products except charcoal. But charcoal iron, in the production of which wood charcoal finds its most important use, must compete with coke-made iron which is capable of being substituted in many uses for the more expensive charcoal iron.

The production of chemicals by the distillation of hardwood has been established in the United States for many years. Indeed, prior to the introduction of synthetic methanol in 1925 the United States supplied approximately 50% of the world's production of methanol and with

respect to that article was on an export basis. According to the Bureau of the Census, plants for wood distillation . . . . represented an investment of $42,000,000 in 1919 (the last year for which such data are available). The 74 establishments engaged in distilling hardwood alone consumed in 1923 more than a million cords of wood. . . . .

EXHIBIT 1*

GENERAL STATISTICS FOR THE HARDWOOD DISTILLATION INDUSTRY IN THE UNITED STATES, 1923

Value of products	$24,262,546
For sale:	
Refined methanol	$ 4,818,695
Acetate of lime	4,763,403
Charcoal	8,601,923
Other products†	6,078,525
	$24,262,546
Cost of materials	$14,335,736
Value added by manufacture	9,926,810
Salaries	772,205
Wages	3,330,742
Paid for contract work	360,484
Persons engaged in industry	3,366

* [Table 1 in the report] from Bureau of the Census.
† Includes value of major products consumed in works.

Exhibit 2 gives the production in gallons of crude and refined methanol in the United States . . . . As there are practically no industrial uses for crude methanol, as such, most of it is refined. The potential productive capacity of the industry is stated by the applicant for a change in duty to be 14,000,000 gallons per year. . . . . Domestic production is approximately equal to the 1925 production.

EXHIBIT 2*

PRODUCTION OF METHANOL IN THE UNITED STATES, 1904-1925

(In gallons)

Year	Crude	Refined	Year	Crude	Refined
1904	8,282,286	5,917,153†	1921	3,964,430	2,831,708
1909	9,307,983	6,732,877†	1923	8,632,468	5,175,880
1914	9,602,431	6,464,955	1924	6,897,589	‡
1919	9,103,006	7,301,010	1925	7,651,125	4,637,354§

* [Table 2 in the report] from Bureau of the Census and Bureau of Foreign and Domestic Commerce.
† Amount sold, which is slightly less than total amount produced.
‡ Not available.
§ Nine months only, April to December, inclusive.

. . . . . .

Exhibit 3 shows exports by countries and indicates the loss by domestic producers of the European market during the last two years.

Exhibit 3*

Exports of Methanol from the United States, 1914-1926

(In gallons)

Years	France	England	Germany	Canada	Japan	Other Countries	Total Exports	Average Price
Fiscal								
1914	.....	295,114	939,580	77,191	1,808	285,083	1,598,776	$0.408
1915	155,861	533,106	101,252	61,105	23,444	69,606	944,374	.464
1916	466,337	719,707	.....	72,723	40,931	172,560	1,472,258	.582
1917	266,221	487,076	.....	343	26,492	43,562	823,694	.784
Calendar								
1918	2,036,976	487,037	.....	982	4,010	95,307	2,624,312	.775
1919	1,950	174,202	600	254	28,335	513,086	718,427	1.044
1920	4,675	156,644	17,495	11,138	135,360	377,752	703,064	1.770
1921	35,160	159,661	11,183	11,278	114,386	80,442	412,110	1.104
1922†	50,664	336,633	473,428	9,858	101,345	298,386	1,270,314	.726
1923†	123,817	421,436	253,865	23,628	166,960	217,317	1,207,023	1.056
1924	39,813	198,182	5	35,945	171,842	194,850	640,637	1.072
1925	79	93,391	104	61,587	105,558	142,466	408,185	.787
1926 (first six months)	93	26,396	2,916	11,360	105,773	105,731	252,269	.743

* [Table 4 in the report] from Bureau of Foreign and Domestic Commerce.
† "Wood and denatured alcohol."

. . . . As will be seen from Exhibit 4, imports in 1925 rose to 508,409 gallons, which was about 8.5% of domestic production. . . . . Imports since 1923 have been entirely of synthetic methanol. . . . .

Imports of methanol at present come entirely from Germany, which

Exhibit 4*

Imports of Methanol for Consumption in the United States, 1912-1926

Years	Rate of Duty	Quantity (Gallons)	Value	Price per Gallon
Fiscal				
1912	20%	157	$ 185	$1.18
1913	"	362	387	1.07
1914†	Free	108,974	42,538	.39
1915	"	39,485	11,880	.30
1916	"	46,829	9,496	.20
1917	"	11,267	4,502	.40
1918	"	205,276	202,994	.99
Calendar				
1919	"	1	5	5.00
1920	"	213,860	524,845	2.46
1921	"	1,033	2,836	2.74
1922 Jan. 1 to Sept. 21	"	25	39	1.56
1922 Sept. 22 to Dec. 31	12c per gal.	2	4	2.00
1923	" " "	15,786	12,573	.80
1924	" " "	48	29	.60
1925	" " "	508,409	231,086	.45
1926 (first 5 months)	" " "	274,221	124,431	.45

* [Table 5 of the report] from Bureau of Foreign and Domestic Commerce.
† In 1914, 48 gallons valued at $60 were admitted at the 20% ad valorem rate.

country is the principal competing country for the purposes of Section 315 of the Tariff Act of 1922.

. . . . . .

Cost [of production] data were obtained in the United States for two periods—the calendar year 1924 and the first six months of 1925. These data cover three types of plants—those engaged in the distillation of hardwood but not equipped to refine the crude methanol produced by them; those both making crude methanol and refining it in the same plant; and those engaged solely in the refining process. . . . . Cost data were obtained from 63 plants in all, and . . . . those for 57 plants have been used in the cost tabulations presented in this statement.

. . . . . .

The distillation of wood in the case of many companies is closely associated with sawmill operations or with the production of charcoal iron. It was therefore impossible to obtain complete data as to the capital invested in the wood distillation industry. Investment data, however, were obtained for 25 plants producing crude methanol and for one refinery. Interest computed at 6% per annum on the total investment as reported is equivalent to 3.89 cents per gallon of refined methanol in 1924 and 3.22 cents per gallon in the first 6 months of 1925.

. . . . . .

The one German company producing synthetic methanol and supplying the entire export to the United States refused to submit its cost of production data to representatives of the Tariff Commission. For evidence of foreign cost, the commission, therefore, is restricted to invoice prices of imports from Germany. . . . . In the absence of any evidence that methanol is being dumped into the domestic market below actual cost of production, it may be reasonably inferred that the full cost of production in Germany is below the invoice price, such cost of production embracing items for all factors of production, including return on invested capital and also a larger or smaller margin of profit, depending upon the position of the German producer in the cost scale.[1]

When the German cost of production thus deduced from the invoice prices is compared with domestic costs without allowance for return on domestic invested capital, the difference is found to be greater than can be equalized by the maximum increase in duty permissible under the statute.

Hence it becomes immaterial whether the cost difference thus indicated would or would not be augmented by including in domestic costs a return on invested capital. For, whatever the domestic investment item upon adequate data might turn out to be, the inclusion of that item could only augment the difference between foreign and domestic costs . . . . it also becomes immaterial to determine whether it would be statistically preferable to use, for comparison with the cost figure

[1] For illustration of such a cost scale, see case of Eastern Association of Pig Iron Manufacturers, pages 107, 108.

indicated by the German invoice price, that one of the domestic costs which, in the domestic cost scale, corresponds more strictly with the point in the German cost scale represented by the invoice price.

. . . . . .

Methanol is produced in the United States jointly with two other products, namely, acetate of lime and charcoal, whereas the methanol imported into the United States is produced in Germany as the only product of a synthetic process. In order to ascertain the differences in cost of production, as required by the provisions of Section 315 of the Tariff Act of 1922, it was necessary for the commission to assign to methanol some part of the joint cost of producing the three products. . . . . A part of the joint costs of the three products has been assigned to methanol in the ratio that the sales return from methanol bears to the total sales return from the three joint products. In allocating these costs two methods were followed: (1) the cost for each period has been allocated in the ratio of the sales return for the same period, and (2) the costs for each period have been allocated in the ratio of sales return over a period of 3½ years.

. . . . . .

The domestic costs of production of methanol, including transportation to New York (the principal consuming market) for the 18-month period covered by the investigation . . . . allocated on the basis of relative sales returns for the same period are 75.61 cents per gallon, while if allocated on the relative sales returns for a period of 3½ years, are 72.90 cents per gallon. The costs of production of methanol in Germany, including transportation to New York, when based on invoice prices of methanol imported into the United States from that country, are 48.12 cents per gallon.

The differences in costs of production in the United States and in said competing country are, therefore, 27.49 and 24.78 cents per gallon, depending upon the period used in determining the ratio of sales returns. . . . .

. . . . . .

In reporting the results of this investigation under Section 315 of the Tariff Act of 1922, this summary, as in all other investigations, is confined to a statement of the findings of fact which appear to be warranted by the data secured in the course of the investigation, without recommendation or expression of opinion with regard to the advisability or nonadvisability of a change in the existing duty.

The powers of the President in this connection, as provided by the Tariff Act of 1922, were:

a) Whenever the President, upon investigation of the difference in costs of production of articles the growth or product of the United States, and of like or similar articles the growth or product of competing foreign countries, finds it thereby shown that the duties fixed in

the act do not equalize such differences, he shall ascertain the differences and determine and proclaim a rate of duty which will equalize the same.

Such changed rate or rates of duty become effective thirty days after the date of the President's proclamation.

The right to change any rate of duty is restricted to a total increase or decrease of 50% of the rate specified in the act. These rates of duty are to be based upon foreign valuation.

b) Whenever the President upon investigation finds it thereby shown that the cost differences cannot be equalized by proceeding under subdivision (*a*) he is empowered to proclaim a change to the American selling price as the basis of the ad valorem duty fixed in the act.

When action is taken by the President to base any rate of duty upon the American selling price no such rate shall be decreased more than 50%, nor shall any such rate be increased.

Such rate or rates of duty become effective fifteen days after the proclamation of the President.

c) In ascertaining the difference in costs of production under subdivisions (*a*) and (*b*) the President, in so far as he finds it practicable, shall take into consideration:

(1) The differences in conditions in production, including wages, costs of material, and other items in costs of production of such or similar articles in the United States and in competing foreign countries.

(2) The differences in the wholesale selling prices of domestic and foreign articles in the principal markets of the United States.

(3) Advantages granted to a foreign producer by a foreign Government, or by a person, partnership, corporation, or association in a foreign country.

(4) Any other advantages or disadvantages in competition.

Investigations to assist the President under this section are required to be made by the United States Tariff Commission, and no proclamation shall be issued until such investigation shall have been made. Title III, Section 315.

Under the 1922 tariff law, generally speaking, competitive articles were dutiable and noncompetitive articles were free of duty. The values of merchandise imported into the United States since 1890, and the revenues obtained from duties, have been as shown in Exhibit 5.

By proclamation on November 27, 1926, the President increased the duty on imported methanol to 18 cents per gallon.

1. Would you have agreed with his decision, from the view-

Exhibit 5

Merchandise Imported and Customs Duties Collected from 1891 to 1925*

Year Ended	Values			Amount of Duties Collected				Average ad Valorem Rate of Duty on—	
	Free	Dutiable	Total	Free	Ordinary	Additional	Total	Dutiable	Free and Dutiable
June 30									
1891	$ 388,064,404	$ 466,455,173	$ 854,519,577	45.41%	$215,790,686	$1,095,015	$216,885,701	46.26%	25.38%
1892	458,074,604	355,526,741	813,601,345	56.30	173,097,670	1,026,600	174,124,270	48.69	21.40
1893	444,172,064	400,282,519	844,454,583	52.60	198,373,452	770,226	199,143,678	49.56	23.58
1894	378,968,717	257,645,703	636,614,420	59.53	128,881,868	677,024	129,558,892	50.02	20.35
1895	376,890,100	354,271,990	731,162,090	51.55	147,901,218	1,549,390	149,450,608	41.75	20.44
1896	368,897,523	390,796,561	759,694,084	48.56	156,104,598	908,908	157,013,506	39.95	20.67
1897	381,902,414	407,348,616	789,251,030	48.39	171,779,194	981,167	172,760,361	42.17	21.89
1898	291,534,005	295,619,695	587,153,700	49.65	144,258,563	1,179,822	145,438,385	48.80	24.77
1899	299,668,977	385,772,915	685,441,892	43.72	200,873,429	1,198,621	202,072,050	52.07	29.48
1900	366,759,922	463,759,330	830,519,252	44.16	228,364,556	996,215	229,360,771	49.24	27.62
1901	339,093,256	468,670,045	807,763,301	41.98	232,641,499	914,610	233,556,109	49.64	28.91
1902	396,542,233	503,251,521	899,793,754	44.07	250,550,428	902,727	251,453,155	49.79	27.95
1903	437,290,728	570,669,382	1,007,960,110	43.38	279,779,587	972,828	280,752,415	49.03	27.85
1904	454,153,100	527,681,459	981,834,559	46.26	257,392,055	830,188	258,222,243	48.78	26.30
1905	517,073,277	570,044,856	1,087,118,133	47.56	257,898,130	528,165	258,426,295	45.24	23.77
1906	548,695,764	664,721,885	1,213,417,649	45.22	293,557,984	352,412	293,910,396	44.16	24.22
1907	641,953,451	773,448,834	1,415,402,285	45.35	329,121,659	358,389	329,480,048	42.55	23.28
1908	525,704,745	657,415,920	1,183,120,665	44.43	282,273,432	309,462	282,582,894	42.94	23.88
1909	599,375,868	682,265,867	1,281,641,735	46.77	294,377,360	289,694	294,667,054	43.15	22.99
1910	761,353,117	785,756,020	1,547,109,137	49.21	326,263,095	298,588	326,561,683	41.52	21.11
1911	776,963,955	750,981,697	1,527,945,652	50.85	309,581,944	383,748	309,965,692	41.22	20.29
1912	881,512,987	759,209,915	1,640,722,902	53.73	304,597,035	302,331	304,899,366	40.12	18.58
1913	986,972,333	779,717,079	1,766,689,412	55.87	312,252,215	257,731	312,509,946	40.05	17.69
1914	1,152,392,059	754,008,335	1,906,400,394	60.45	283,511,564	207,517	283,719,081	37.60	14.88
1915	1,032,863,558	615,522,722	1,648,386,280	62.66	205,755,073	191,769	205,946,842	33.43	12.49
1916	1,495,881,357	683,153,244	2,179,034,601	68.65	209,523,151	202,650	209,725,801	30.67	9.62
1917	1,852,530,536	814,689,485	2,667,220,021	69.46	221,447,743	211,323	221,659,066	27.18	8.31
1918	2,117,555,366	747,338,621	2,864,893,987	73.91	180,196,879	392,955	180,589,834	24.11	6.30
Dec. 31	1918—(6 months)								
1918	1,149,881,796	303,079,210	1,425,961,006	79.14	73,907,033	21,037	73,928,070	24.39	5.09
1919	2,711,462,069	1,116,221,362	3,827,683,431	70.84	237,402,680	54,000	237,456,680	21.27	6.20
1920	3,115,958,238	1,985,865,155	5,101,823,393	61.08	325,635,175	10,390	325,645,565	16.40	6.38
1921	1,564,278,455	992,591,256	2,556,869,711	61.18	292,359,221	37,531	292,396,752	29.45	11.44
1922	1,888,240,127	1,185,533,136	3,073,773,263	61.43	451,356,289	.....	451,356,289	38.07	14.68
1923	2,165,148,317	1,566,621,499	3,731,769,816	58.02	566,663,978	.....	566,663,978	36.17	15.18
1924	2,118,167,861	1,456,943,421	3,575,111,282	59.25	544,768,198	.....	544,768,198	37.39	15.24
1925	2,708,827,567	1,467,206,757	4,176,034,324	64.87	551,852,989	.....	551,852,989	37.61	13.21

Annual Report, Secretary of the Treasury, 1926, pp. 483, 484.

point of its effect upon government revenues? Upon "all parties interested" in the United States?

2. Should Congress have passed legislation authorizing a further increase in the duty on methanol? If so, what should have been the amount of the increase?

2. Garnette Company

IMPORTATION AND PROTECTIVE TARIFF

In 1914 the Garnette Company was uncertain whether to establish a factory for the preparation of egg products in China. The company's main office was in New York, and it operated 10 factories in the middle-western dairy centers of the United States. Through these factories it controlled one-third of the production of frozen eggs and nearly all the production of dried eggs in the United States. The Garnette Company was able financially to establish a plant in China which would be capable of producing the same output as any of its factories in the United States, and it could enlarge the factory if the experiment proved successful.

Dried and frozen eggs were sold in three ways: as yolks, whites, or mixed yolks and whites. An egg was reduced two-thirds in content when dried. The length of time which frozen and dried eggs would keep varied with the temperature.

The Garnette Company established a price for the sale of its egg products at the beginning of each year. Dried whole eggs sold for about 80 cents, dried yolks for about 70 cents, and dried whites for about $1.50 a pound. The price of frozen eggs was about one-third of the price of dried eggs.

The 1913 tariff on dried egg products was as follows: Ten cents a pound on dried whole eggs, and 10% ad valorem on dried yolks. Dried whites were imported as a chemical and bore a duty of 3 cents a pound. Frozen yolks and frozen whole eggs bore a duty of 2 cents a pound, and frozen whites 1 cent a pound.

Dried and frozen egg products were used almost entirely by bakers, who preferred them to shell eggs because they were cheaper to transport, were more uniform in quality and price, and could be kept longer at the proper temperature.

An increase in the consumption of eggs and a decrease in the

surplus stocks of eggs encouraged the company in 1914 to look for new sources for its raw materials. China and Austria offered the best possibilities, but the outbreak of war in 1914 eliminated Austria from further consideration.

China was a large egg-producing country. Nearly every family raised a few hens, with the result that more eggs were produced than could be used locally. This had given rise to a flourishing export trade of shell eggs to Japan. Eggs raised in China were about five-sixths the size of those produced in the United States. Eggs equal in quality could be purchased for less than one-half the price in the United States. If a factory were established in China, it would be necessary to pay the executives sent there twice as much as they were receiving in salary in the United States. Most of the labor which would have to be employed in the factory would be skilled. Skilled labor in China of the kind needed was paid about the same as in the United States; unskilled labor was paid about one-fourth as much as in the United States.

Ocean freight rates on the finished products from China added about 2 cents a pound to the cost of the products delivered in the United States.

Of the available centers in which to locate a factory, Shanghai seemed to be the most suitable. Shanghai was a treaty port in which foreign residents had the same legal rights as in their native countries. This provision, "extra-territoriality," afforded them greater protection than in the other cities of China. The city contained an international settlement, a French concession, and the old Chinese city. Favorable sanitary conditions prevailed: drinking water was obtainable; and suitable social opportunities for Americans existed. Suitable land could be purchased there for about the same price as land in a similar location in the United States. Shanghai offered adequate facilities for transportation. Other egg factories owned by European and Chinese companies had been established in Shanghai.

Although manufacturing costs would be about 1 cent higher per pound of product than in the United States, the cost of the finished product would be far less, because of the low prices of eggs. By selling the Chinese product in the United States at a price equal to the cost of production in the United States, the Garnette Company could make a profit on the probable increase in sales volume.

In considering this problem, the Garnette Company attached much weight to the future possibilities of increased tariff rates. If a change of administration from Democratic to Republican should result from the elections of 1916 or later, it was possible that higher rates would be levied on manufactured egg products for the purpose of protecting domestic manufacturers against low-cost foreign producers. Under an extreme protectionist régime, the tariff rates might even be made prohibitively high, so that the company's Shanghai output would have to be sold in other countries. Furthermore, internal political disturbances in China might jeopardize foreign properties.

The company decided, nevertheless, to establish a factory in Shanghai. Because of the lowered total costs of manufacturing there, the company later replaced its original experimental factory with one capable of producing an output equivalent to all 10 factories in the United States. As a result of increasing domestic demand, however, the 10 American factories continued in operation.

1. From the point of view of permanent national economic welfare, would you have advocated a duty on egg products high enough to encourage domestic manufacturers to fill the entire demand?

2. What would be your attitude if you were the president of a baking company? The owner of a large chicken ranch? What should your attitude be if you are neither, and your interests are those of a consumer?

3. Hulwin & Tompkins

EXPORT OF COTTON GOODS TO BRAZIL

In 1915 Hulwin & Tompkins, a firm of cotton goods merchants, considered the question of exporting to Brazil. The firm already exported to several other South American countries and to Europe and Asia.

The firm acted as the selling agent for a group of cotton mills which employed about 10,000 men and women. It sold on commission only. The firm had complete charge of the development of styles and trade-marks and of advertising the products of the mills. In addition to the selling function, it financed the mills in which it was interested by endorsing their notes. In each foreign

territory, the firm was represented by an agent and by a corps of native traveling salesmen, all of whom were paid on commission.

Although the firm was exporting cotton goods successfully to several South American countries, market conditions in Brazil were radically different. In Argentina, for instance, there was no domestic textile manufacture, but in Brazil there was a large and increasing number of cotton mills. Laborers in these mills were paid much less than those in American mills. This, combined with a high tariff, enabled the Brazilian manufacturers to undersell American exporters. The prospect of a further upward revision in the Brazilian tariff made the outlook still less promising.

These disadvantages, however, were outweighed in the partners' opinion by other considerations. Since large-scale production reduced manufacturing costs in the mills, the firm had striven always for volume of sales, rather than for a large margin of profit. Even if it proved necessary to sell in Brazil at no profit, or even at a loss, the increased volume of output would permit a larger profit in territories where the competition was not so severe. For instance, if it cost 20 cents a yard to manufacture and sell a specified grade of cloth which was sold to domestic wholesalers at 22 cents, the mills received a profit of 2 cents, less the commission of the selling agent. If sales were made in Brazil, the increased volume might reduce the cost of manufacturing and selling to 19 cents a yard, but ocean shipment, tariff, and foreign costs might add 2 cents. If competition forced the firm to sell at 21 cents in Brazil, there would be no direct profit on these sales, but there would be an increase of 1 cent, or a total profit of 3 cents, per yard on sales in the domestic markets. If sales were made at 20 cents a yard in Brazil, the loss might be more than offset by the production savings, and the domestic sales would return still larger profits.

The firm of Hulwin & Tompkins always had advocated, for the United States, a tariff on textile imports high enough to preclude price competition from foreign textile manufacturing nations such as England and France. The firm had strongly urged the need of antidumping laws: laws to prevent the sale of foreign textiles in the United States at prices below the actual costs of production in the foreign countries. Otherwise, the partners had contended, the manufacture of textiles in the mills they represented would

be curtailed. Thus the mill workers would be deprived of employment, and the capital invested in the plants would be made nearly useless.

What should have been the policy in regard to selling in Brazil?

XXI

AGRICULTURAL LAND

Black, 275-344, 417-441; Bye, 103-120, 391-406, 408-412; Clay, 328-340; Edie, 295-345; Ely, 382-421, 579-596; Fairchild, II, 97-133; Gide, 195-200, 502-539; Marshall, 629-636; Rufener, 156-200, 778-798; Seager, 229-235, 236-243; Seligman, 304-316, 373-393; Taussig, II, 62-82; Turner, 352-398.

1. New Jersey Potato Growers[1]

PRINCIPLE OF DIMINISHING RETURNS

Early in 1917, when efforts were being made to speed up food production and attention was therefore being directed to the problem of proper fertilization, certain potato growers in the southern part of New Jersey requested the State Agricultural Experiment Station to conduct experiments to determine the relative values of various fertilizers and the amount of fertilizer to be applied to potato fields. It was decided that the experiment station should cooperate with one of the growers in conducting such an investigation.

After careful study, a plot of land was chosen on the farm of J. Harry Kandle, about four miles south of Elmer, New Jersey, where the soil was considered fairly representative of much of the soil found in the better potato-growing sections of the state.

The entire plot of ground allotted for this work was laid out as indicated in Exhibit 1. The small plots were each one hundredth acre in area; and with few exceptions, were duplicated—plots 25-48 being a repetition of plots 1-24. Of these Nos. 1, 10, 21, and 41 were left as "checks"—that is, they were not treated with fertilizer throughout the experiment, which was conducted for 6 years (1917-1922, inclusive). A space of 3 feet was left between the blocks, crosswise; and the rows were 32 inches apart. The

[1] This case is based upon material placed at our disposal by Professor Augustine W. Blair, of the New Jersey College Experiment Station, and mainly contained in the *Report of the Department of Soil Chemistry and Bacteriology*, for the year ending June 30, 1924.

Exhibit 1: Plan of cooperative fertilizer experiment with potatoes.

fertilizers were weighed and mixed at the experiment station and were applied in the row by hand just before planting.

One part of the experiment included study of the effects of different amounts of a so-called standard fertilizer, composed 4% of nitrogen, 8% of phosphoric acid, and 3% of potash, and hence known as "4-8-3." This part of the experiment gave results bearing directly on the principle of diminishing returns.

The results of this portion of the experiment are summarized in Exhibit 2.

EXHIBIT 2

TOTAL YIELD OF POTATOES FOR THE YEARS 1917-1922

(Calculated to an acre basis)

Pounds Fertilizer per Acre	1917	1918	1919	1920	1921	1922	6-Year Average
No fertilizer	220	164	180	174	104	151	166
800 lbs. 4–8–3	255	210	196	265	142	218	214
1,200 lbs. 4–8–3	276	238	205	324	146	240	238
1,600 lbs. 4–8–3	285	238	210	334	160	257	247
2,000 lbs. 4–8–3	291	244	240	341	169	260	259
2,400 lbs. 4–8–3	318	249	255	362	173	286	274
2,800 lbs. 4–8–3	312	262	269	372	170	273	276

A study of the table shows, in the first place (except for the check plots where no fertilizer was used) that there is no indication of a general decline in yield. Indeed the averages for the three years, 1920-1922, inclusive, are in most cases larger than the averages for the first three years. This result indicated that potatoes can be grown on the same plot of ground for a period of years with fair degree of success.

In the second place, the data given in the table illustrate the workings of the principle of diminishing returns. If 400 lbs. of

EXHIBIT 3

AVERAGE PRODUCTION IN BUSHELS

(Six-year averages)

"Doses"	Yield	Total Gain	Increment
0	166		
2	214	48	
3	238	72	24
4	247	81	9
5	259	93	12
6	274	108	15
7	276	110	2

"4-8-3" fertilizer be considered as a "unit" or "dose" of fertilizer, the increments of product per additional "dose" are shown in Exhibit 3.

It is evident from Exhibit 3 that the seventh application (2,800 lbs. of 4-8-3) added very little, only 2 bushels on the average, to the total product, while from Exhibit 2 it appears that in 1917, 1921, and 1922 less product was secured from the plots which had been fertilized with 2,800 lbs. than from those fertilized with 2,400 lbs.[1]

[1] The results of this and other numerous experiments are summarized in *The Law of Diminishing Returns*, by W. J. Spillman, and Emil Lang. (World Book Company, 1924). Dr. Spillman contributes the chapter entitled "The Law of Diminishing Increment," while Dr. Lang contributes that entitled, "The Law of the Soil." The results of three of the experiments cited by Dr. Spillman are summarized in the following tables:

a) Fertilization of cotton. (Experiment undertaken on one of the experiment farms of the North Carolina Department of Agriculture, and described by J. S. Cates in the *Country Gentleman*, August 8, 1920.)

TABLE 1

Increase in Yield of Cotton per Acre with Use of Increasing Units of 200 lbs. of Fertilizer

Units	1	2	3	4	5
Increase (lbs.)	102.5	85.0	62.5	45.6	32.5

b) Irrigation of potatoes. (Experiment undertaken cooperatively by the United States Department of Agriculture and the Idaho State Land Board and presented in the United States Department of Agriculture Bulletin No. 331.)

TABLE 2

Yield of Potatoes per Acre with Use of Increasing Units (6 inches per acre) of Water

Units	1	2	3	4	5	6
Yield (bu.)	132	199	245	270	289	299
Increase (bu.) ...		67	46	25	19	10

c) Varying size of seed piece of potato. Another New Jersey experiment sought to determine the proper size of seed piece to be used in planting potatoes (cited by Spillman, *op. cit.*, p. 73).

TABLE 3

Increase in Yield of Potatoes According to Variations in Size of Seed Piece of Potato

Seed (oz.)	½	1	1½	2
Yield (bu.)	138.5	165.7	180.3	185.4
Increase		27.2	14.6	5.1

d) Varying amounts of fertilizer (*Agricultural Yearbook* for 1926 p. 477).

TABLE 4

Yield of Wheat per Acre with Use of Increasing Units of 30 pounds Bone Meal

Units	1	2	3	4	5	6	7
Yield (bu.)	10.6	14.9	17.3	18.7	19.5	19.9	20.2
Increase (bu.)		4.3	2.4	1.4	.8	.4	.3

1. Assuming that the conditions shown in Exhibit 3 will govern in the production of potatoes next year and that cost of fertilizer is 1.7 cents per pound, how many "doses" of fertilizer should be used if the farm price of potatoes is 40 cents a bushel? $1.00 a bushel?

2. Using the horizontal axis to measure units of the several "units" shown in Tables 2-4 of the footnote and the vertical axis to measure "yields," locate the points and draw curves through them to illustrate the principle of diminishing returns. (See charts in Spillman, *op. cit.*, at various places and that on page 478 of the *Agricultural Yearbook*, 1926.)

3. If the cost of bone meal, as indicated in Table 4, is 75 cents per unit, approximately what number of pounds would it be most profitable to use when the price of wheat is $1.00 per bushel? $1.20? $1.40?

2. Venice, Florida[1]

Promoting the development of a new city and agricultural community

In the summer of 1925 the Brotherhood of Locomotive Engineers, through the Venice Company, purchased a tract of 30,000 acres of virgin land in Sarasota County, Florida. Twenty-five thousand acres of the tract were reserved for farm purposes. The regional plan is shown in Exhibit 1. The tract has a waterfront directly on the Gulf of Mexico and upon a small bay, Venice Bay, where is located the southwestern terminus of the Seaboard Air Line. The location of Venice in the state of Florida is shown in Exhibit 2.

At the time the land was purchased, Florida was in the midst of a land boom, which collapsed during the fall and winter of 1925-1926. The result of the collapse of the boom was that a year later practically all work had stopped in the various subdivisions and land developments over the state. A notable exception to this condition was the Venice project, where the work of clearing land, building streets, constructing a waterworks system and creating the essential structures for a modern village or city community went steadily forward.

[1] Material furnished by The Venice Company, Venice, Florida.

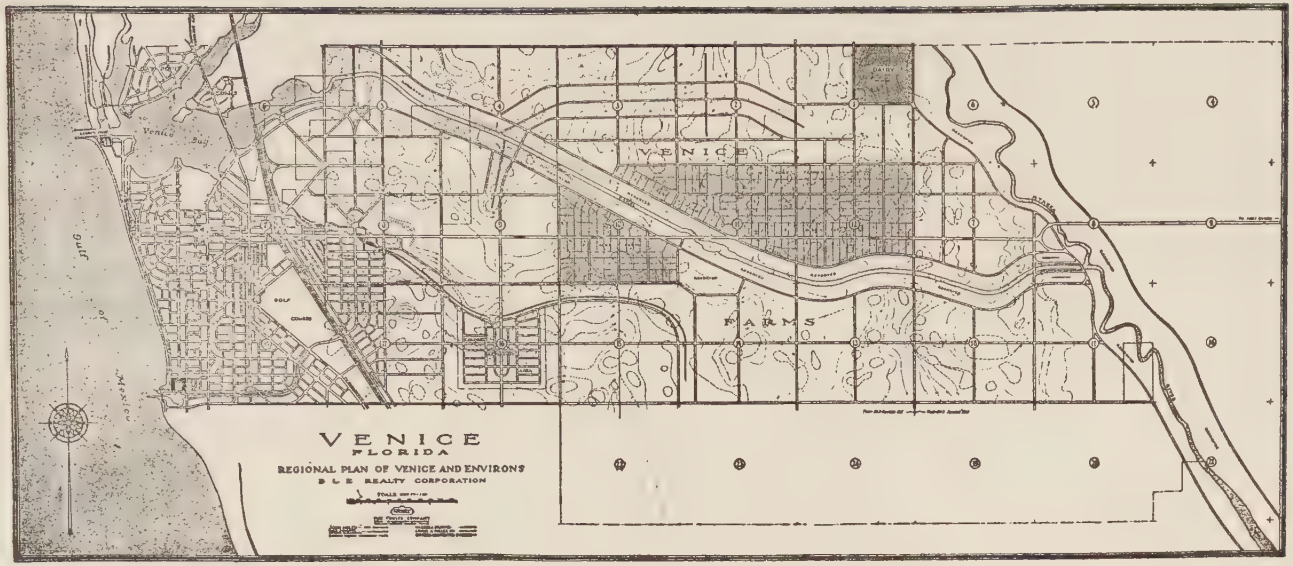


Exhibit 1: Regional plan of Venice and environs.

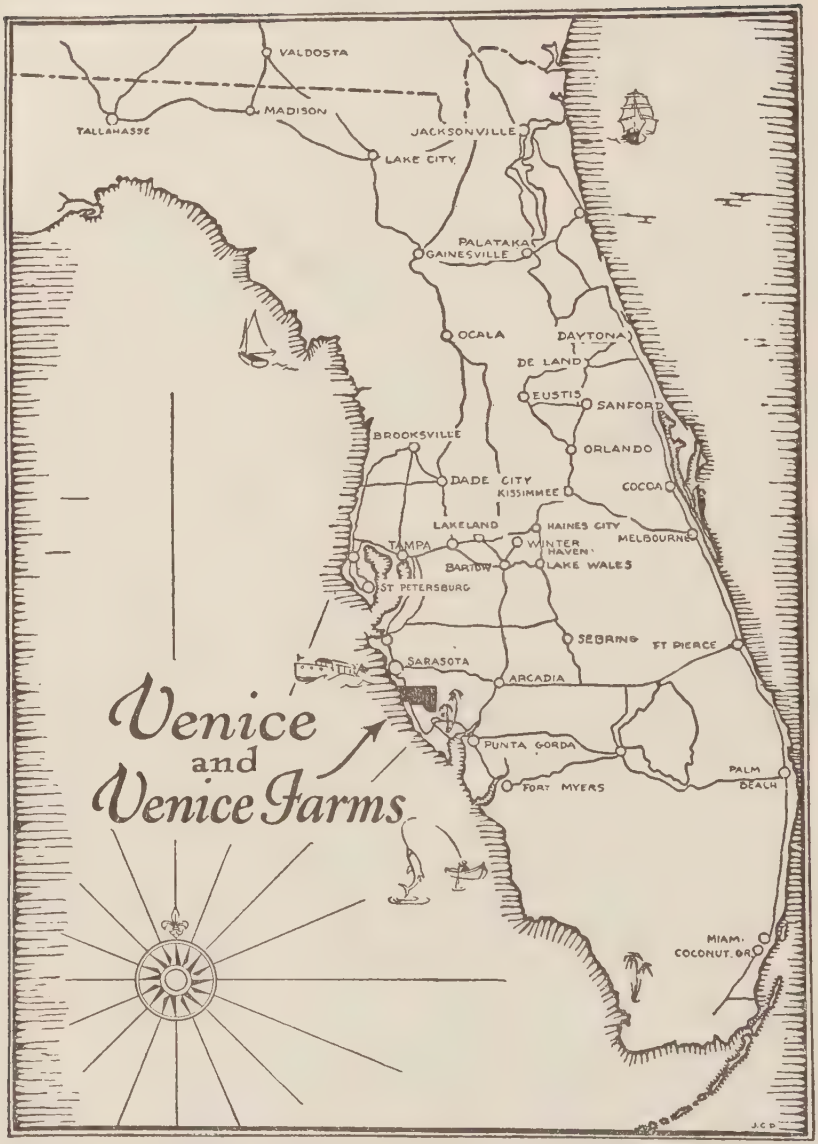


Exhibit 2: Location of Venice in State of Florida.

By September, 1926, over 3,000 acres of the land designed for agricultural purposes had been cleared and "grubbed," that is, trees had been cut down and stumps, roots, and underbrush removed. An 80-acre demonstration farm was being cultivated, and preparations were actively under way to rush the work of ploughing and clearing the 160-acre model dairy farm. Dredges were rapidly completing an extensive drainage program, and roads were being built throughout the tract. The plan contemplated that every Venice farm should front on a graded road.

The Venice Farm Sales Plan was explained by the company as follows:

> The Venice Company does not wish to encourage land speculation in its Farm Section. We want to sell farm sites to individuals who intend to make farming their business and who will live on their land. We are particularly desirous of selling Venice Farms in 5- and 10-acre tracts, because the net profit derived from *Intensively* farmed tracts of this size under the year-round "hot-house" conditions of the Venice section, is great enough to satisfy the most ambitious type of farmer.
>
> There will be two types of farms at Venice—land that has been completely cleared, plowed under, and planted with an initial cover crop, and land that the pioneer type of farmer wishes to clear and prepare for himself.
>
> Profits from farming depend entirely on the individual. All other things being equal, the opportunity for large profits from Venice Farmland is far greater than in any other place in the United States, and we base this broad statement on what has actually been done in the Venice District. Hundreds of 5- and 10-acre farms within a short distance of Venice are annually netting their owners from $500 to $1,000 an acre. The Venice plan contains many conveniences not found in our neighboring farms—hence it is reasonable to assume that the farmer of Venice can profit in the same measure as those who are now getting "cash in the hand"!
>
> The Brotherhood has been in the financing and banking business for years and its financial institutions reach from coast to coast.
>
> Therefore, it is in a position to finance a deferred payment plan for those who desire it, on a basis of one-fourth down and four equal yearly payments plus 7% interest.

For farm land cleared, grubbed, fertilized, and ready for planting, the prices varied from $360 to $700 an acre, depending upon the location and quality of the farm. The average price was $500 an acre.

City lots varied more widely in price, according to size and location. In the "Gulf View" section, lots were priced from

$3,000 to $17,000. The latter was for a corner lot with a 100-foot front, suitable for an apartment building. In the "Venezia Park" section, the typical price of a lot with 50-foot frontage was $2,500. Lots of similar size in the "Edgwood Park" section were offered at $1,200.

Prices of city lots included water, light, sewer facilities, and streets. The Venice Company offered to loan purchasers 75% of the purchase price of farms or lots, including the cost of buildings. Twenty-five per cent of the price was required in cash. For outright purchase of farms, a discount of 7% was allowed.

While the organizers of the Venice project contemplated the marketing of the products of the farms mainly in the markets of the North, it was recognized that the building of a near city would create a home market, especially during the winter months when there is a considerable influx of tourists from the North. The city of Venice was therefore projected, and the services of a professional city planner were retained. There was no existing settlement, and it was possible, therefore, to design a complete new city.

Once the city had been planned and construction work was under way, the work of selling the lots in the city and the farms in the agricultural district was undertaken, despite the collapse of the boom elsewhere in the state. Sales offices were opened in important Florida towns, and an advertising campaign was begun. The advantages of Venice as a permanent place in which to live or in which to spend a winter vacation were also presented to the public generally in a series of advertisements in important magazines. A sample advertisement is reproduced in Exhibit 3. In November, 1926, announcement was made that three hotels representing a cash investment of $1,300,000 would be in operation within 30 days.

Lots were sold on the installment plan: 25% cash, and the balance in 3 equal installments; but no "resale" department, where purchasers might list their lots for resale, was created. Such "resale" departments had been an important part of the land selling organization during the Florida boom of 1924-1925, when speculation in vacant lots was so wild as to cause a severe reaction. The circular describing a residence section in the heart of the new city, the Venezia Park section, carried the following

Venice Farms Facts
1. Twenty-five thousand acres of fertile, high, well-drained soil unsurpassed for citrus or truck growing.
2. Average annual ocean temperature 72.8 degrees Fahrenheit.
3. Average total rainfall, 48.57 inches annually.
4. Every Venice Farm to front on graded road.
5. Adequate Drainage, the most important factor in Florida farming being rapidly installed.
6. Choice of systeared low-priced land—or land completely cleared, plowed and planted with initial cover crop.
7. Venice Farm District has 312 growing days a year
8. CASH MARKET commanding PEAK PRICES during winter months.
9. Two and three crops a year raised on same land.
SARASOTA
Venice
Farms
GULF OF MEXICO
Venice Farms
FLORIDA
An asset for which you pay nothing!
Venice Farms Facts
10. Venice Farm Board now being organized of practical experts whose time and knowledge is yours for the asking.
11. Venice Marketing Bureau will aid you in co-operative packing and shipping of produce.
12. Forty-acre Venice Nursery now propagating and testing crops.
13. Eighty-acre Demonstration Farm.
14. 160-acre model Dairy Farm under construction.
15. Venice transportation facilities complete—Seaboard Airline Railroad—Tamiami Trail and Venice Bay soon to be a port.
16 Venice Farmland integral part and adjacent to new city of Venice, with all its civic and resort advantages.
17 The Brotherhood of Locomotive Engineers, owners and developers of Venice, have ample financial resources to assure completion of proposed improvements.
Florida's Best in HOMES, INDUSTRY, AGRICULTURE.
When you buy a farm in an old community you pay for AGE as well as land. The price of such land is based on many things other than its profit-yield per acre.
Land bought at VENICE Farms today will be in the status of the older communities tomorrow.
In other words, there is a known increment in the value of all property in a new community.
How many times have you said to yourself—"If I had just gotten in on the ground floor!"
Venice Farms offers you ground floor opportunities today. Ground-floor opportunities to live life at its best; to reap the richest rewards in contentment, happiness and money profits.
Remember the new community today is the old community of tomorrow.
Venice is owned and controlled by the Brotherhood of Locomotive Engineers, an organization that for 63 years has kept every promise and filled every contract.
Let the Venice representative in your city arrange a trip for you to this new empire of agriculture, industry and homes.
The Venice Company
Venice Florida,
Clip and mail!

Exhibit 3: Sample advertisement of the Venice Company.

statement of policy: "The Venice Company has disapproved inflation and speculative prices from the very outset. Increased population and completed improvements are the only factors which will increase the price of these lots."

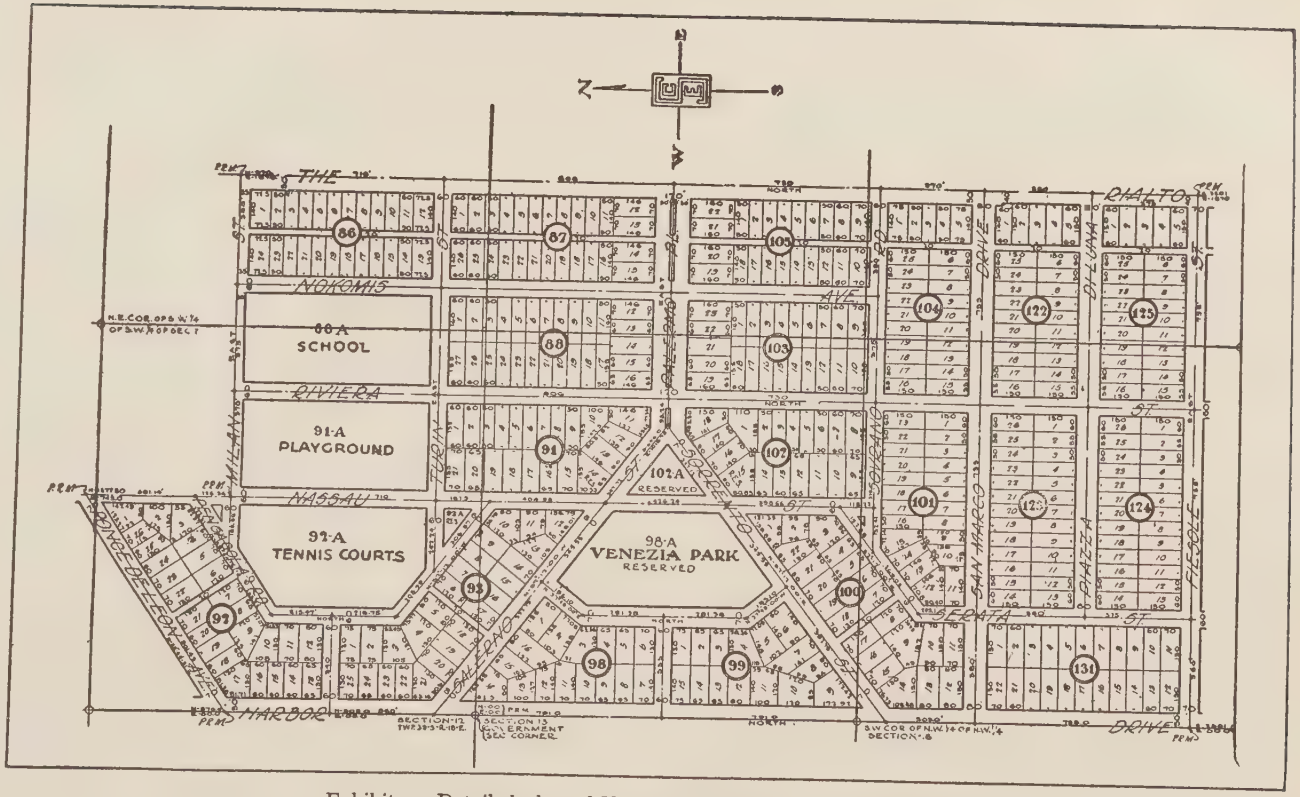


Exhibit 4: Detailed plan of Venezia Park Section, Venice, Florida.

A detailed map of the Venezia Park Section of Venice, as of September 1, 1926, is shown as Exhibit 4. Permanent improvements had not then been completed; but it was announced that street development, including curb and gutter, paving, sidewalks, storm sewers, water and light, would be started soon after December 1, 1926. The good faith of the Brotherhood was pledged in the following language: "What the Brotherhood says it will do—IT DOES! Venice represents performances, not promises."

1. In the development of the farming operations proposed, under what circumstances, if any, would economic rent emerge and who would be its recipients?

2. Was the matter of the contemplated farming operations chiefly "extensive," or "intensive"?

3. Do you agree with the several statements in the sales literature? With which do you agree? With which do you disagree?

4. Was the fact that no city was near by an advantage or a disadvantage?

3. Fairway Farms[1]

Bringing Submarginal Land into Use

The decline of agricultural prices in 1920 and 1921 followed a period of rising and high prices caused by war conditions and their aftermath. During this period, notably the years 1915-1919, farm prices were so high that land which had formerly not been worth cultivating came into use. In other sections, as those in the Mississippi and Missouri valleys, prices of farm land rose rapidly, and in Iowa and Minnesota land booms occurred during which inflated prices for farms were paid. Such prices could be sustained if the inflated prices of agriculture continued. In eastern Colorado and in Montana where rainfall is slight and where water irrigation is not available, "dry farming" increased, under the stimulus of high prices, especially those for wheat.[2] When wheat

[1] Based upon M. L. Wilson, "The Fairway Farms Project," *Journal of Land & Public Utility Economics*, Vol. 2, p. 156. Reprinted here by permission.

[2] The average farm price (cents per bushel of wheat) on December 1 of each year for Montana and Colorado has been estimated as follows:

State	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
Colorado	78	87	80	150	193	195	202	135	76	89	83	118	136	107
Montana	66	91	78	161	192	194	235	128	85	89	82	124	139	112

prices declined in 1920-1921, men on the farms which had been brought into use found that they could no longer make a living on the farms and left, abandoning their improvements and in many cases permitting a bank or mortgage company to take over the farm. The dry-farming districts of Colorado and Montana were dotted with these abandoned farms in 1921 and 1922. Because of the decline of agricultural prices and land values, many banks in this section of the West became insolvent, the failures continuing in considerable number as late as 1926.

In October, 1923, Professor H. C. Taylor visited Montana to study the agricultural situation at the request of the Secretary of Agriculture, Mr. H. C. Wallace. Professor Taylor learned of the wreckage which was proceeding from day to day. In the settlement of Montana, farmers had come from the more humid parts of the country and taken up quarter-section or half-section homesteads. These farms were often too small to give efficient production. The Agricultural College and the United States Department of Agriculture had made regional studies of the situation and had in hand the information essential to organize farms on a more profitable basis. Large numbers of farmers had left the country, but the more efficient were still holding on. Some of the latter had been reduced to poverty by a combination of natural and economic conditions over which they had no control. The holders of farm mortgages had been forced to take over vast areas of land which they wanted to dispose of. These mortgage companies had little information about the types of farming or farming practices which were adapted to the country and the size of farms required for successful operation. What Montana needed was a means of rehabilitation based on a careful survey of the possibilities of the land of the various parts of the state which would indicate the type of farming suited to each region, the size of farm essential to successful operation, the price at which this land could be purchased and paid for by the farmers, and which would furnish advice and capital for building up the proper amount of equipment. The Montana College of Agriculture was eager to take the leadership in giving direction and assistance to this resettlement movement.

Professor Taylor had had previous experience in creating an "inframarginal" farm from a marginal farm, while he was professor of Agricultural Economics at the University of Wisconsin

and at the same time the owner and operator of two farms near Madison, Wisconsin, on one of which he lived. These farms had been operated by tenants, with tobacco as a major crop. The land was in the region required for supplying Madison with fresh milk. Forty dollars was the largest figure that had been seen on the monthly check going to either one of the two farms. The farms were not properly equipped for dairy purposes.

After the two farms were purchased, the type of farming was changed. Tobacco farming was dropped. The soil was limed. Barns were constructed. Silos were put up. Cows with capacity for converting feed into milk were secured. The manure from the dairy barns was spread over the entire farms instead of being concentrated on a few acres for growing tobacco. Large crops of alfalfa and clover hay were produced. The result was satisfactory, for the milk checks reached more than $600 a month. These farms then produced much greater gross and net returns than ever before.

At the same time other farms in the neighborhood were being rented to tenants who could make little on them and pay little rent for them because the equipment was not adequate, and the soil needed medicine in the form of lime and manure. This state of affairs led to the idea that profits could be made and at the same time a number of landowners and tenant farmers benefited if a company were organized for the purpose of buying and rejuvenating run-down farms. The company would put on these farms efficient tenants who wanted to become owners, provide the necessary capital to equip the farms with proper buildings, purchase the lime needed to prepare the soil for legumes, and then lease the farms to the tenants with an option for them to buy at a definite price. The tenant would have the interest of an owner from the beginning and help with the construction work in a manner to keep down the costs which he would ultimately have to pay as a part of the price of the farm. Many retired farmers are securing low returns on their farms because of lack of equipment. Many tenants are marking time on farms not properly equipped for the type of farming which will yield profits. The landowner and the tenant would be benefited by the stepping in of a company with adequate capital to put the farm on a profitable basis. A million dollar corporation to carry out a project of this kind in Wisconsin was conceived, but when Professor Taylor

went to Washington to help with the economic work of the Department of Agriculture, the project was dropped.

Building upon this experience and this idea, however, the Fairway Farms of Montana was organized in the spring of 1924. In order to secure financial backing for the project, the Rockefeller Memorial Board was approached. This board sent a representative to Montana at once to look into the situation and secure such facts as were desired as a basis of further consideration. The report was favorable; negotiations continued. The Fairway Farms Corporation of Montana was organized. A formal request for funds was made by the corporation. All that was desired was the use of funds long enough to carry out the demonstration. The corporation wanted to secure the funds from interested parties who recognized the element of risk but who were willing to take the risk in the interest of the cause. It appeared that while the Rockefeller Memorial Board was interested, it could not well make this kind of a disposition of its funds. This did not close the matter, however, because friends in the Memorial were ready to ask John D. Rockefeller, Jr., to make the desired loan. Mr. Rockefeller was interested and agreed to make a loan of $100,000 at 5% without moral or legal obligations of full payment of the principal by the individual trustees of the Fairway Farms Corporation.[1]

The corporation at present (1926) has eight farm units. In selecting and organizing these farms much study was given to determining the "economic unit." In each case an attempt was made to bring together the amount of land which could be most efficiently used by a farm family with the equipment adapted to the specific case. In the dry-land areas one cause for failure in the past was that the individual holdings were either too small, or, in a few cases, too large. In almost every case the present Fairway farms are consolidations of what had been separate farms. Of course, these larger farms are affected by changed methods of production, which will be discussed later.

The following brief description gives some idea of the size,

[1] Recognizing that this undertaking should be operated as a strictly business demonstration and that certain research work would be essential in carrying it forward along right lines, the Memorial did make an appropriation of $10,000 a year for two years to the Institute for Research in Land Economics and Public Utilities for the purpose of defraying the expenses of research in the Montana area as a guide in the undertaking, and in other areas where similar undertakings might be under consideration.

organization, and type of farming of the present farms. The Davis Farm, near Comanche, Montana, consists of slightly more than 4 sections (2,560 acres) and is a consolidation of what was 8 separate farms. In 1926 this farm will have approximately 1,000 acres of spring and winter wheat, 600 acres of summer fallow, 300 acres of corn, 120 acres of dry-land alfalfa, and approximately a section (640 acres) of pasture. The farm is operated by the tenant and his son, who employ some additional labor during the seeding and harvesting period. The farm has silos and 25 head of milk cows that are milked during the winter. A 15-30 three-plow tractor and a 12-horse team supply the farm power. The corn is planted with a two-row lister and cultivated with a two-row cultivator, and most of the summer fallow in 1925 will be cultivated with the tractor and a 12-foot duckfoot cultivator. There are but few farms in Montana at the present time which have the same organization of different lines of production as this farm, and it is expected that this farm will demonstrate the efficiency of certain low-cost systems of management.

ACQUISITION CONTRACTS

In the organization and development of its farm units the Fairway Farms Corporation has in a few cases purchased the lands outright. The reasons for so doing were either that the corporation was able to secure the lands at much better terms or that it did not feel justified in taking the risk involved in setting up a tenant-purchaser and making the necessary advances for equipment and operating capital without owning the land. However, much thought has been given to the problem of how separate parcels of land could be brought together into one farm unit and a contract developed between the owners of this land and the Fairway Farms Corporation whereby the landowners supplied the land and the Fairway Farms Corporation the equipment and money necessary to consolidate the individual tracts into an economic farm unit.

The corporation has attempted to formulate an equitable and fair contract whereby the landowner places a valuation upon his land and turns it over to the Fairway Farms Corporation, which then endeavors to make a farm owner out of the tenant and at the same time obtain reasonable compensation for its services

and risks, and a profit on the entire transaction which will be large enough to show that other similar enterprises could be carried on in a regular, businesslike manner. In this connection the corporation, working cooperatively with two large holders of Montana lands, which reverted to them through foreclosed mortgages, has developed two distinct types of acquisition contracts which are believed to be practicable and which, if the project proves successful, may have wide usage.

The first of those contracts was developed with the North American Mortgage Company. Under this contract the Fairway Farms Corporation and the mortgage company agreed upon the valuation of a 530-acre farm which was made up of three separate and distinct foreclosed farm units. The Fairway Farms Corporation guarantees to the investor interest and taxes during the life of the contract. The payments on the principal begin with a nominal sum (less than one-fourth of the anticipated net income) and increase slowly for a period of five years. From the fifth to the fifteenth year the Fairway Farms Corporation, through the tenant-purchaser, guarantees to pay the remainder of the principal. When 50% of the original purchase price is paid, either the Fairway Farms Corporation or the tenant-purchaser will be given a deed to the property and the investor agrees to take a first mortgage for the remainder. The lower rate of payment for the first five years was deemed necessary so as to allow the Fairway Farms Corporation to equip the tenant and to secure the repayment of these advances before the bulk of the net income from the farm was used to pay for the land. The Fairway Farms Corporation is also permitted in its resale of the land to the tenant-purchaser to add a sum which it anticipates will cover its cost of supervision, overhead, and return a reasonable profit. Since operating capital, work stock, tractors, machinery, and so forth, depreciate very rapidly, it seemed right that the Fairway Farms Corporation should be repaid for the advances made for these purposes before any large proportion of the net income went into the land.

The second type of acquisition contract was worked out between the Fairway Farms Corporation and a life insurance company, which owns considerable Montana dry land that was acquired through necessary foreclosure, largely because of abandonment during the recent agricultural depression. This company,

of course, is interested primarily in its investment rather than in immediately converting the investment into cash. The particular contract covers a unit of 960 acres which is made up of three foreclosed, independent units. In the contract the life insurance company gives the Fairway Farms Corporation what might be termed "a continuous option to purchase." The option remains in force as long as the Fairway Farms Corporation pays the interest and taxes. Whenever 25% of the agreed purchase price is paid to the insurance company, its regular farm sale contract will be issued which provides for definite amortized annual payments.

The prevailing farm sale contracts provide either (1) for repayment of certain sums annually regardless of farm income for that year, or, (2) in the case of a crop purchase contract, for the purchaser to turn over to the seller of the farm a certain portion of the crops raised each year. Under either plan, in a year of poor yields or low prices the purchaser may so reduce his operating capital as to hamper seriously his farm business organization, thereby reducing his opportunities for larger incomes in future years. The farm sales contract now in common use is satisfactory to the man who is able to make a substantial first payment and who has sufficient operating capital and equipment to carry on a given farm business in an efficient manner. It is not, however, adapted to the tenant who lacks capital and who is entirely dependent on each succeeding crop for carrying out the terms of his farm purchase.

The Fairway tenant-purchase contract is an attempt to correct these undesirable results. The aim is not only to protect the buyer against possible unjust action by the seller, but also to help the tenant-buyer to satisfy completely the reasonable obligations put in the contract by the seller. . . . .

In selecting tenants the executive committee has endeavored to secure men who are fairly typical of the different types of men in Montana who are now climbing the "agricultural ladder." In one case a graduate of the State Agricultural College, who had served as a very successful county agent and who had saved $3,000, was established on a farm involving an outlay of $8,000 by the corporation. This young man and his wife, who, by the way, is also a college graduate, were very desirous of passing from the salaried status to that of farm operator. He had demon-

strated his thrift and sound judgment. The Fairway Farms Corporation has given him a chance to use an amount of live stock and equipment in the start that he would not be able to secure from any ordinary landlord.

Another college-trained young man of exceptional energy and capacity left a salaried teaching position paying about $2,500 a year to become a tenant-purchaser on one of the Fairway farms. This young man had very little capital. On the other hand, he gave promise of having exceptional business ability, energy, and capacity for handling a good-sized farm. He is operating a farm consisting of approximately two sections (1,280 acres) of dry farming land and one quarter-section (160 acres) of irrigated land. In other words, he is representative of a type of young man who could probably rise very rapidly in some field of city industry, but who, since he lacked capital, would probably never farm because of his inability to associate himself as a proprietor of a farm unit commensurate with his managerial ability.

Two of the tenants are men who are emerging from the laborer to the tenant stage. One of these men is about 45 years of age, with a wife and 3 children. Ten years ago he had a farm and equipment worth between $15,000 and $20,000. This money, however, was lost through a set of unfortunate circumstances: family sickness, low prices, and crop failures. Since he had no capital whatsoever, it was proposed to him that he should work for the corporation, operating a farm on a monthly wage basis, which would be a little less than he would have obtained elsewhere during 1925, and if his work was satisfactory, the corporation would in turn set him up as a full-fledged Fairway tenant-purchaser in 1926. This man worked doubly hard during 1925 and made money for the corporation on the farm which he operated on a salary basis.

FARM ORGANIZATION AND PRACTICES

Wheat is the main cash crop on a majority of the corporation's farms. However, in organizing these farms three things have to be considered: (1) A large output per man, to be secured through allocating greater power per worker, either by means of a 12-horse team or a medium-sized tractor; (2) low-cost practices, such as the "duckfoot," instead of plowed summer fallow;

header barge, or small combine harvest-threshers instead of stationary threshing: and (3) supplemental live-stock enterprises, such as dual-purpose cows, sheep or hogs sufficient to supply the family living and yield some income in poor crop years. By means of the duckfoot cultivator with large "V"-shaped shovels, it is hoped that one man with a 12-horse team or tractor can summer fallow at least twice, and probably three times, as much land as where the land is plowed and cultivated in the ordinary manner. This method does not seem to affect materially the yields of wheat but greatly increases the number of acres of wheat which one man can raise.

On each of the dry-land farms the corporation is developing feed reserves. The farm plan sets up as a standard that at least one full year's supply of feed should be kept in reserve at all times so that in case of crop failure or bad years it will not be necessary to sacrifice live stock because of lack of feed. The farming plans also provide for a considerable number of milk cows to be milked during the winter on each of the wheat farms. Because of the extreme variability of the seasons from year to year in the sections of Montana in which most of the farms are located, it is necessary that there should be large reserves for the farms to draw on in case of failure in a particular year. The plans for financing also provide for sufficient cash reserves so that the corporation could carry on during a bad year without obtaining loans on any of its invested capital.

In spite of the various difficulties and heavy expense in starting the farms, all of those which were cropped in 1925 returned interest, taxes, and other expenses incident to the production of last year's crop. Two complete sets of farm buildings were erected and a new home placed on a third farm. It is hoped that these farms will be operated at nearly their maximum efficiency in 1926. Much of the income this year was put back into improvements and equipment. From now on only small sums will be needed for advances to tenants and the net income can be used for liquidating the tenant's indebtedness to the corporation.

Thus far the Fairway project brings into striking relief two problems. The widely scattered and mostly nonresident landholders (who secured their lands through mortgage foreclosure) fail to appreciate the importance (*a*) of the consolidation of small tracts, which are submarginal as family farm units under present

conditions, into farms which are still family farms and can become supermarginal with the introduction of new methods that give a larger output per worker, and (*b*) of a farm organization which will give reserves to carry through poor crop years. There is a marked tendency, however, among successful farmers and present tenants in eastern Montana to lease additional lands and thus expand the size of their units. The Fairway project, it is believed, points the way to the solution of this problem. An aggressive leadership has been required. But the corporation hopes to demonstrate how the interests of both the landowner and the tenant can be harmonized in such a way that the tenant can gradually become the owner of the land.

The other striking lesson gleaned from the experiment thus far is the difficulty of making land valuations, which is the first step in the actual consolidation of separately owned units into well-balanced farms. The management of the corporation hopes to go into this problem and, in a few cases where definite requests are made, to mediate between the landowners and the tenants, thereby assisting others in trying the Fairway plan.

The project is now passing into the second year of farm operation, and the management feels that the outlook for the present farms is very hopeful. It is believed that the tenants will make considerable progress during 1926. However, should this prove a poor crop year, the farms are so organized that with the present supplemental enterprises the tenants can go through with little out-of-pocket loss. Continued emphasis will be placed on low-cost practices and large output per worker, as well as supplemental enterprises.

The owners of foreclosed lands, as a group, are watching the Fairway experiment with much interest. Some large landowners are developing leasing contracts which savor of the Fairway principle and are making advancements to their tenants on the basis of the amount of work done by the tenant and adjusting the portion of the crop which the landlord takes to the advancement he has made.

1. Compare the methods adopted by the Fairway Farms with those of the Venice Corporation.[1] Which do you consider the sounder?

[1] See also the case of California Fruit Growers' Exchange, page 74.

2. Were the previous owners of the farms to blame for their losses? Were the insurance and mortgage companies?

3. Why was it necessary to consolidate the farms for operating purposes? How would a rise of wheat prices affect these conditions? A decline?

XXII

URBAN LAND

Black, 430-431; Bye, 409-412; Clay, 333-334, 348-354; Edie, 317-319; Ely, 421-422; Fairchild, II, 134-162; Gide, 539-541; Marshall, 440-454; Rufener, 205-228; Seager, 232-235; Seligman, 381-393; Taussig, II, 83-97.

1. Gabler & Company

LOCATION OF RETAIL STORES

Gabler & Company operated a store for the sale of women's garments and clothing accessories of all kinds. The store was located in the retail shopping area of a city of over 1,000,000 population. Sales were growing steadily, and amounted to about $3,000,000 in 1925. The store carried medium- and high-priced merchandise, which appealed chiefly to well-to-do women. In the fall of 1925 the officers of the company decided to open a small branch store in a residential suburb of the city about three miles from the main store.

In the city's retail shopping area were many department stores, shoe stores, jewelry stores, and shops which, like the Gabler Company, sold women's wearing apparel. There were also office buildings, theaters, drug and tobacco stores, and miscellaneous retail establishments. The shopping area was easily reached by all the important street-car lines from the surrounding residential districts. Although rents and property values were high, the large numbers of people who shopped in the area made it possible to operate stores of the types described at satisfactory profits.

As the number of shoppers continued to increase, however, vehicle traffic in the retail area became so congested that automobiles were no longer permitted to be parked in the district. During the busy hours of the day, the street cars were crowded, to the discomfort of many women shoppers.

The articles sold by Gabler & Company consisted of the following:

Women's suits	Slips
Women's coats	Moderate-priced dresses
Women's dresses	Silk underwear
Fur coats	Misses' coats
Fur scarfs	Misses' dresses
Sweaters, waists, skirts, etc.	Misses' suits
Millinery	Hosiery
Neckwear	Men's ties
Gloves	Glove silk underwear
Hand bags	Luggage
Jewelry and novelties	Infants' clothing
Handkerchiefs	Umbrellas
Negligees	Toilet goods
Brassieres	Children's wear
Cotton underwear	Juniors' wear

The president of Gabler & Company believed that, because of the increasing traffic congestion in the retail district, many women would patronize a branch store, if opened, where traffic was light and where automobiles could be parked near the store. Many of the store's customers owned automobiles, but relatively few had chauffeurs.

In the president's opinion, in a few years women's clothing stores in the central retail district would lose the patronage of many customers living in the outlying districts of the city. The president, therefore, wanted his company to be among the first to establish a branch store, in order to gain a strong competitive position with the considerable number of women who, he anticipated, would change their buying habits.

Wharton Center, a prosperous residential suburb, was chosen for the branch-store location, mainly for two reasons: it was already one of the well-developed convenience goods centers of the suburb, and it was the point at which several highways leading from a few other of the better residential sections converged. "Convenience goods" are those usually bought at stores easily accessible to the purchasers, and include most groceries, many tobacco and drug supplies, candy, popular magazines, and other similar goods. Such products usually are of low unit price. Women purchasers usually prefer to buy these articles near home.

A substantial number of Gabler & Company's customers lived in sections near Wharton Center or drove their automobiles through Wharton Center from outlying communities. Traffic conditions in Wharton Center were far less congested than in

the downtown areas. Many people already had started the practice of parking their automobiles at Wharton Center and then riding by elevated train or surface cars to the main shopping district, which could be reached thus in about 12 minutes. At Wharton Center, there were drug, grocery, and small furnishing stores; one shoe store; several florists; small restaurants; and a number of doctors' and dentists' offices.

The treasurer of Gabler & Company had opposed the establishment of the branch store. He pointed out that more than half the merchandise sold by the company was of the type that could be classed as "shopping goods." These goods included women's coats, dresses, hats, and other garments. Women almost invariably preferred to visit several stores, comparing the prices, quality, and style of such articles, before deciding to buy. It was an advantage to the store, therefore, to be near the other retail stores selling similar merchandise, since large numbers of women were attracted to the area by the ease of making comparisons in the various stores. The shopping habit was strong; if most women continued to shop in the central retail districts, the branch store would be competing with the parent store. The only convenience goods sold by Gabler & Company were some articles in the hosiery and toilet goods departments. The treasurer thought, therefore, that his company could not expect a profitable sales volume at Wharton Center. He realized, on the other hand, that if one or two other companies established similar branch stores at Wharton Center, these branches would help the business of the Gabler & Company store.

Which of the following factors should have been given the greatest weight by Gabler & Company in deciding to open a branch:

a) Nearness to consumers;
b) Nearness to competitors;
c) Difficulties of rapid transportation for customers?

2. National Association of Building Owners and Managers[1]

In the building industry, the question of deducting charges for

[1] Adapted by permission from *Wall Street Journal,* New York, March 5, 1927.

obsolescence from earnings of office buildings had long been a subject of contention. An arbitrary theory existed that the life of an office building was 50 years; that is, that a typical office building, though kept in good repair, would have to be replaced 50 years from the date of erection. If that theory were accepted, an owner of an office building could properly claim an annual deduction equal to 2% of the cost of the building, from the earnings on which income taxes were computed. To throw light on this theory and to obtain data on obsolescence for use in obtaining proper recognition in income tax matters of this factor as entirely separate from physical depreciation, the National Association of Building Owners and Managers published the results of tests conducted on the W.C.T.U. Temple of Chicago.

The causes of obsolescence as outlined are as follows:

1. Normal growth of the business district;
2. Shifting in location of the business district;
3. Erection of newer buildings of a different type and style;
4. Greater efficiency in the layout and operation of newer types of buildings;
5. More modern and complete service which newer buildings give their tenants;
6. Damage caused by new buildings adjacent to an old building so cutting off the light and air of the older building as to diminish the value of its space and consequent earning power.

The influence exerted by the above six factors may singly or collectively result in obsolescence, which is defined as that which causes the useful and profitable life of anything to be shorter than its possible physical existence.

The W.C.T.U. Temple Building was built during 1890-91, on a lot 95 by 188, on the southwest corner of Monroe and La Salle Streets at a final cost of $987,628. It was opened for occupancy on May 1, 1892, and demolished August 1, 1926, to make way for the New State Bank Building, a modern 22-story office structure.

The property eventually came into control of the Marshall Field Estate, from which it passed in 1919 to the State Bank of Chicago. The Marshall Field Estate held the property for disposal and gave the building practically no maintenance from a construction standpoint. The State Bank bought it as a site for its new building and expended as little as possible for main-

tenance. It received, therefore, only a small portion of the construction maintenance ordinarily given an office building.

Changes in the population of Chicago from 1890 to 1920 were as follows[1]:

Year	Population
1890	1,099,850
1900	1,698,575
1910	2,185,283
1920	2,701,705

Item 2, causes of obsolescence, could not be applied to the Temple. The location in 1926 was even more valuable than it was when the structure was erected. There was no shifting in the business section. As a matter of fact, the Temple site has become the nucleus of Chicago's financial district.

Item 6, also, was not applicable. The east and north elevations of the Temple faced on wide streets and the south elevation was protected by a set-back from the property line in addition to a 20-foot alley. Thus, although the 16-story Corn Exchange Building was erected on the property immediately to the south, light and air privileges were preserved.

As causes of obsolescence, there remained only those factors concerning design, construction, equipment, and service. In addition to their influence in rendering the structure obsolete for business purposes, these factors also deprived the building of considerable earning power during its life.

The building was divided roughly into what are known as the upper portion, the typical portion, and the ground portion.

Features of obsolescence in the upper portion, which directly affected rentability of space, were:

1. The pitched roof, which was responsible for two floors of dark space and somewhat destroyed the symmetry of offices on the tenth floor;
2. The projecting eaves of the roof, which materially cut off light from space on the tenth floor and thereby diminished its value;
3. The deep reveals, which affected the light quality of the space and limited the view from upper windows.

The upper portion of the Temple produced approximately 17,000 square feet of class B space and 8,250 square feet of class C space.

[1] Data from *Abstract of the Fourteenth Census of the United States*, p. 50.

Assuming $4, $3, and $2 to be the rental value per square foot of classes A, B, and C, respectively, revenue from the upper portion as it was actually built was $67,500. Had the flat type of roof been developed at the time the Temple was constructed, two floors of class A space might have been provided in place of three floors of class B and class C space. These two floors would have involved no more construction than was used to produce the three, and would have provided 9,200 square feet of class A space, revenue from which at $4 a square foot would have approximated $73,600.

The loss of a profitable $6,100 in annual rentals, or 9%, resulting from obsolete construction methods, was taken to indicate the approximate obsolescence in effect at the time of demolition. The association pointed out also, that it probably would have cost less to build two additional typical stories, with flat roofs, than it cost to construct three stories beneath the pitched roof.

In the typical section of the building, there was considerable excellent space, but the amount of space which was represented by odd-shaped offices was nearly 12% of the total. Discussing obsolescence in that section of the building, the association said:

> Obsolescence of the typical section of the building brings us again to a consideration of layout and construction. The obsolescence of layout is an intangible consideration, yet one which is a great factor in the financial history of any structure. Progress on the part of tenants has been marked by an increased efficiency of office furniture and its arrangement, and has resulted in a diminution of the space required in which to transact business. These modern tenants demand a different column spacing to facilitate economical division of office units. Old buildings do not lend themselves to modern subdivision without the sacrifice of considerable space. In the last analysis, this old-style column spacing diminishes revenue and represents obsolescence.
>
> The major instances of construction obsolescence lay in the thick walls and floors, for this bulky construction used a great amount of space which modern design would have made available for rental use. With modern construction, there would have been at least 1,000 additional square feet of rentable area on each typical floor. This represents 8,000 square feet of class A space, which at $4 a square foot amounts to $32,000 a year.
>
> To attempt to put into figures this obsolescence of construction, the only premise on which to base the computation would be that of a unit cubic foot cost. This premise does not actually hold in all cases but for the present consideration, where added height is reflected in wall construction over the entire perimeter of the building, it is not so far out

of line, but that figures reasonably representative of the actual cost may be obtained through its application.

The thickness of the floors being 21 inches, meant that 64 inches more vertical height of construction was necessary than would have been needed had the modern 13-inch floor been in vogue. This extra height required 74,000 cubic feet of construction volume. At the time the Temple was built, records show that the construction cost was 39 cents a cubic foot. The added investment, therefore, represented by 74,000 cubic feet, was $28,860, and this amount should be subject to the carrying charge items of interest, depreciation, and taxes, or at usual rates, to 10% per annum. The charge, therefore, due to this item of obsolete construction in the typical section of the Temple Building, amounted to $2,886 a year. This figure, combined with the $32,000 additional rental which might have been obtained had the walls occupied less space, amounts to $34,886 a year, which should be assessed against the obsolescence of construction.

Modern construction would have provided considerable additional space in the ground portion of the Temple without involving any additional cube. By cutting down the thickness of the walls, for instance, from 5 feet to 17 inches, 700 square feet would have been added on the mezzanine and 1,000 square feet on the ground floor. Assuming values of $5 a square foot on the mezzanine and $8 on the ground floor, this single construction change alone would have resulted in an increase in annual income of $11,500.

The extra thickness of the floors represented additional volume amounting to 23,000 cubic feet. Proceeding on the premise used with the typical portion of the building—a unit cubic foot construction cost of 39 cents—the annual charge of 10% against the cost of this extra construction amounts to $897. The charge against obsolescence of construction design for this portion of the building, therefore, was $12,397 a year.

Located, as the building was, in the heart of the financial district, and on account of the poor quality of the ground floor space for retail purposes, no stores were leasing space in the Temple on the date on which it was wrecked. Stock and brokerage house tenants occupied the La Salle and Monroe Street frontages. The only other ground floor tenant was a tea room.

In a summary of the annual charges to be placed against obsolescence of construction design, the figures for the three portions of the building already considered were:

Upper portion	$ 6,100
Typical portion	34,886
Ground portion	12,397
Total	$53,383

This study of the Temple Building indicated a conclusion that the period of 50 years, commonly assumed for the life of an office building, was too great. The conclusion arrived at was that an office structure of the most modern design, most permanent type of construction and most advantageous location, might be so affected by obsolescence within a period of 35 years that its demolition would become an economic necessity.

Also, as the cost of wrecking amounted to just less than 10% of the structure's original cost, the limits used, of full value and no value, seemed to be erroneous. In view of the value of the Temple, the establishment of a fund to replace the building at the end of its useful life would have to be based on a depreciation extending from full value, to a negative value of $95,000 (the cost of wreckage in addition to all salvage value). Spread over a period of 34 years this represents 3.2% a year. In consideration of the fact that the Temple was well built and modern for its time, and that it experienced no obsolescence of location, this figure of 3.2% appeared to be a minimum allowance for use in connection with office buildings.

1. How did the growing importance of Chicago as a financial center affect the obsolescence of the building?

2. How has the invention of high-speed elevators affected the value of centrally located sites such as this one?

3. Should a limit be placed upon the height of buildings in a big city? If this building had been in a city such as Boston, where the building law limits the height of buildings to about 10-12 stories, would it have become obsolete so quickly?

3. Sunman Company

SELECTION OF SITE AND CONSTRUCTION OF WAREHOUSE

The Sunman Company followed a policy of expanding its operations slowly and conservatively. During the 12 years preceding 1925, annual sales increased from $200,000 to $600,000. In

January, 1925, a new warehouse with improved service facilities was deemed to be necessary.

The Sunman Company, located in a city of about 75,000, sold at wholesale a general line of powdered drugs, proprietaries, pharmaceuticals, and sundries. The company also sold drug-store fixtures and soda fountains, but generally did not carry those articles in stock. The warehouse leased by the company was within one block of the center of the city. The owner of the warehouse refused to keep it in good repair. The rent paid by the company amounted to about $3,800 in 1924.

The warehouse was next to a public garage. The location of the building, together with its general condition, made the company's insurance rate slightly above $1 a hundred. The total insurance paid by the company in 1924 was .26% of net sales. Common figures for expenses in the wholesale drug trade in 1924 are shown in Exhibit 1.

EXHIBIT 1

AVERAGE OPERATING EXPENSES, GROSS MARGIN, NET PROFIT, AND STOCK-TURN IN 1924 FOR 129 WHOLESALE DRUG FIRMS*

(*Net Sales*=100%)

Total Sales Force Expense	3.7 %
Advertising and Catalogs	0.15
Other Selling	0.1
Wages of Warehouse Labor	2.7
Warehouse Supplies	0.25
Outward Freight, Express, and Parcel Postage	0.2
Outward Truckage	0.35
Executive Salaries, Office Salaries, and Wages	3.4
Office Supplies, Postage, and Stationery	0.35
Telephone and Telegraph	0.1
Other Buying, Management, and Office	0.2
Rent	0.75
Heat, Light, and Power	0.15
Taxes	0.45
Insurance	0.2
Repairs of Equipment	0.05
Depreciation of Equipment	0.15
Total Interest	1.9
Miscellaneous Expense	0.3
Losses from Bad Debts	0.35
Total Expense	15.8 %
Gross Margin	17.1
Net Profit or Loss	1.3
Stock-Turn (times a year)	3.8

*Harvard Bureau of Business Research, Bulletin No. 50, *Operating Expenses in the Wholesale Drug Business in 1924*, Table 31, opposite page 64.

The warehouse had poor facilities for shipping merchandise. All orders for city customers had to be taken out through the front door. Thus not only was there congestion in the entryway, but little available street space was left for customers to leave their trucks or automobiles in front of the warehouse. Country orders were shipped through a rear entrance opening upon a public alley. The use of this alley by other mercantile establishments located in the vicinity frequently led to congestion of outgoing deliveries. Incoming merchandise also was brought in through this alley.

The company purchased few items of merchandise in carloads; hence, it was necessary to transport practically all incoming merchandise from the freight depot, and a railway siding would not be worth consideration. A location on a railroad, furthermore, would be more dirty and unsanitary than one at a distance.

The officials decided that a suitable site for the warehouse should be near the center of the city, easily accessible to the retail druggists who came to the warehouse or sent their clerks to obtain small items of merchandise. Although the company found several buildings of the size required, these either were not for sale or were not centrally located. It was necessary, therefore, to build a new warehouse. The first step in the plans for the new warehouse was to select a suitable site. The location must be satisfactory with respect to railways, foundations, the cost and dimensions of the site, and the operating economies obtainable. A vacant lot 140 feet by 80 feet, located only 2 blocks from the center of the city, was for sale at a price of $35,000. The company purchased this lot.

After acquiring the site for the new warehouse, the company officials had to decide upon the type of building to be erected and the general factors governing the arrangement of equipment and the layout of merchandise.

The leased warehouse was a 3-story building of mill construction, containing about 23,000 square feet of floor space. This space included a balcony of about 2,000 square feet, on the first floor. The officials of the company had been satisfied with the results obtained from placing merchandise upon the balcony. An elevator, at the rear of the building, and a dumb waiter were the only accessory equipment installed in the building.

Restricted floor space in the leased warehouse prevented a satisfactory layout of merchandise. Ordinarily, it was necessary to place goods wherever a vacant space could be found, regardless of the location. As a result, merchandise frequently was misplaced and was reported out of stock. This method of operation was clearly wasteful.

The executives decided that for the company's purposes a satisfactory warehouse should be 3 stories high, 100 feet wide, and 140 feet long. In a warehouse of those dimensions, it would be possible to store all the merchandise effectively, and to provide sufficient room for an increase in the volume of sales. On the site selected, therefore, the company built a 3-story warehouse of mill construction, which, with the real estate, was to cost approximately $125,000. The company was able to pay outright all but one-fifth of the total cost. The remaining part of the purchase price was obtained through a mortgage on which the interest was 6%. This was the current local rate of interest on similar investments. Depreciation and obsolescence[1] was to be charged off at the maximum rate permitted by tax officials; this rate would be determined as soon as possible. It was expected that the use of the new building would reduce operating expenses.

The construction of the building provided for the addition of a fourth floor, if that should become necessary. The latter addition could be made without removing the original roof.

1. After the Sunman Company occupied its new warehouse, would there be an item of economic rent among its expenses? If so, could that item be determined accurately?

2. What would be the effect of the change in location and building on the selling prices of the company's products?

4. S. W. Straus & Company

CONSTRUCTION OF SUBURBAN APARTMENT HOUSES

In the fall of 1923, S. W. Straus & Company, an investment banking firm specializing in the issue of real estate mortgage

[1] See case of the National Association of Building Owners and Managers, pages 332 ff.

bonds, was asked by the owners of a piece of land in a suburb of New York City for a loan of $500,000 to finance the construction of four apartment houses on that site. The original plans called for four buildings, six-story and basement, three-fourths exterior, semifireproof, each with a push-button elevator. The structures were to have brick-bearing walls and wooden frames, and on the first floors, reinforced concrete slab construction was to be used throughout.

The location was in the heart of the established residential section of the suburb, close to the center of the local shopping district and near to transportation facilities. Transportation to Manhattan from this suburb by the Long Island Railroad took less than 20 minutes. A station of the Interborough Rapid Transit subway was under construction three blocks distant. Street cars and bus lines operated to all local shopping and recreation centers.

On the surrounding property there were fine residences, the library was but one block away, a number of schools and churches were near by, and local moving picture theaters were not far distant. The property was protected against the erection of undesirable structures by the zoning laws and by the adjacent buildings. Land values in the district in which the property was located were advancing rapidly. Investigation of rental conditions disclosed that the demand for high-grade apartments had been insistent. The apartment houses already built were without elevators. It was believed, therefore, that accommodations offered by the proposed apartments would fill a need in the community.

The corner on which the buildings would be erected was suitable for that type of improvement. The land frontage was 274 feet on Avenue A and 247 feet on Avenue B. Those avenues were wide, with tall elms on either side. The buildings, therefore, would be protected fully as to light and air. The shape of the plot, however, was peculiar and not readily adapted to a satisfactory arrangement for apartment houses.

The original floor plan for the proposed apartment houses showed one four-room and three three-room apartments, each apartment with kitchen and bath in addition. The estimated annual gross income from the apartment houses, according to the original plans, was $99,840. The estimated total cost of the building (bare material and direct labor cost) was $644,000. With annual expenses of operating the apartments estimated at

$47,525, the net income was $52,315, which was only slightly more than the 6½% interest and 3½% amortization which would be required on the proposed loan of $500,000.

S. W. Straus & Company was convinced that it could not make the proposed loan with any safety on the basis of the proposed plans, but that with careful planning a sound project could probably be worked out. The company, therefore, submitted the plans, both for the layout of the apartments and for the arrangement of the buildings on the plot, to its architectural and engineering departments for revision. After careful study of the unusual shape of the plot and after several experimental layouts, those departments evolved a plan which called for four, semifireproof, six-story and basement buildings with full exterior. The construction was to be with brickbearing walls and wooden frames; reinforced concrete slab construction was to be used throughout the first floors. There were to be a stairway and a push-button elevator in each building. The typical floor plan showed two three-room and two four-room apartments, each apartment with kitchen, bath, and dining alcove in addition. The data for the revised plan are compared with

EXHIBIT 1

DATA CONCERNING ORIGINAL AND ACCEPTED PLANS FOR PROPOSED APARTMENT HOUSES

	Original Plan	Revised Plan
Number of apartments	96	96
Number of rooms	312	336
Number of kitchens	96	96
Number of baths	96	96
Area of typical floor, square feet	17,352	16,016
Height, base to roof, in feet	72	72
Cubic feet contents	1,250,000	1,153,000
Percentage wall excess	58	25 (normal)
Percentage plumbing excess	11	0 (normal)
Average square feet per room	333	250
Average cubic feet per room	4,006	3,003
Linear feet of wall	1,360	1,138
Cost allowed per cubic foot, in cents	51 1–24	51 1–24
Estimated total cost of construction*	$644,000	$594,000
Average room cost	2,064	1,768
Estimated annual gross income:		
312 rooms at $320 per room	$99,840	
336 rooms at $368		$123,648
Percentage income to cost	15.5	20.8

*Bare material and direct labor cost.

those for the original plan in Exhibit 1, and the new plot solution is compared with the old in Exhibit 2.

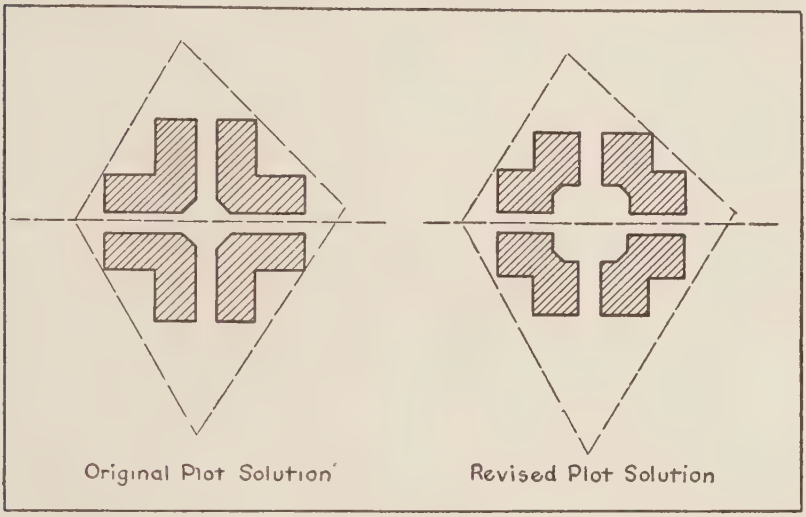


Exhibit 2: Adaption of apartment houses to shape of land.

The revised plan increased the number of rooms by 24. The rooms were larger under the new plan than under the old and their arrangement was improved. Waste space was decreased 30%, the estimated total cost of the buildings 7.8%, and the estimated average cost per room 14.3%. The enclosing wall was reduced by 16,000 square feet. Ninety-six dining alcoves were provided by the new plan, closet space was increased, and the central courts were enlarged. The estimated annual gross income was increased approximately $24,000; the estimated cost of construction was reduced $50,000, and the percentage of income to cost was increased over 34%. The improvement in the living efficiency of the apartments and in the character of the buildings would result in much greater rent ability even at higher rental rates. The estimated cost of erecting the proposed buildings in accordance with the revised plans, the estimated expenses of operation, and the estimated income are shown in Exhibit 3.

The estimated annual net income of $76,123 was more than twice the annual interest charges on the proposed loan and 1½ times the total of the annual interest and retirement charges on that loan. The estimated net income capitalized at 10% resulted

EXHIBIT 3

ESTIMATE OF COST OF ERECTING PROPOSED BUILDINGS ACCORDING TO REVISED PLANS, OF INCOME, AND OF OPERATING EXPENSES

Land—45,900 square feet	$ 50,000	
Building—1,153,000 cubic feet at 51½ cents	594,000	
Builders' and architects' commissions—7½% of $594,000	44,550	
Cost of financing	40,000	
Carrying charges—9 months' interest	24,375	
Legal and other expenses	7,500	
Total Cost	$760,425	
Gross Income		
336 rooms at $368 per year	$123,648	
Vacancy allowance of 10%	12,365	
		$111,283
Expenses		
Taxes—estimated assessment of $500,000 at $3 per $100	$ 15,000	
Operation of 336 rooms at $60 per room, including repairs and depreciation	20,160	
Total Expenses		35,160
Net Income		$ 76,123

in a valuation of $761,230 as compared with the cost estimate of $760,425. S. W. Straus & Company had two independent appraisals made of the total value of the land and proposed buildings by competent appraisal firms familiar with values and trends in the particular locality. Those appraisals stated the value at $800,000 and $805,000, respectively.

On the basis of the revised plans, S. W. Straus & Company decided to make a loan of $500,000 and issued first mortgage bonds of 6½% for 10 years, with the provision that each year income to the amount of about 3½% of the loan be set aside for use in paying off the bonds at maturity, commencing, however, with a payment of $9,000 in January, 1926. Each year thereafter the total amortization and interest charge was to be $49,900. The amount of bonds retired each year would increase because the interest on the outstanding bonds would be a smaller proportion of the total charge. In October, 1924, a year after occupancy, the owner reported that 94 apartments were rented at a gross rental of over $134,000; annual expenses averaged less than $55 per room, and the value of the land had increased from $50,000 to between $200,000 and $250,000.

1. What values would you have placed on this property in

October, 1923, and October, 1924? Of what items would the valuations be composed?

2. Was the income of investors in these bonds rent, interest, or profit?

3. To what factors would you attribute the rise in the value of this land?

XXIII

RENT OF MINES

Bye, 406-412; Fairchild, II, 145-147; Gide, 544-549; Marshall, 166-167, 290, 438-439; Rufener, 201-204; Seager, 235-236; Taussig, II, 98-112.

1. Alden Coal Company

PRICE POLICY OF COAL MINING COMPANY

The Alden Coal Company owned and operated a large anthracite mine. Its annual output was approximately 10% of the total production of anthracite coal in the United States, which was normally in the neighborhood of 72,000,000 long tons a year. The company was uncertain as to whether it was following a sound pricing policy.

In several respects, the company's mines were superior to competing mines. In the normal course of breaker operations, Alden coal naturally formed into the larger sizes, which were the most profitable. While in other mines the percentage of small, unprofitable sizes was as high as 30%, in the Alden mine those sizes were only about 10% of the company's total output. In the company's underground operations, furthermore, there were fewer obstacles to be overcome than in any other mines. The mine tunnels were relatively free of water, so that costs of pumping were low. The veins of coal were easy to work, and contained a minimum of rock in proportion to coal. The Alden Coal Company paid the wage rates usual in the industry. After charging interest on invested capital as one of the costs of production, the company was able to produce high-grade coal at costs much lower than those of most other mines. Engineers had reported that the mine could be operated for 62 years more at the current rate of output. A number of other mining companies, with higher costs of production, made satisfactory profits at the current prices.

In view of these conditions, the Alden Coal Company occasion-

ally had considered lowering its prices. One director, for instance, had stated that the company might gain much goodwill from customers by lowering its prices.

Like all anthracite coal, the company's product was sold f.o.b. the mine. Nearly all was sold to retail dealers at varying prices for the different sizes; namely, egg, stove, chestnut, pea, and buckwheat numbers one, two, and three. Mines sold coal to dealers by the long ton of 2,240 lbs., while the dealers, except in one state, resold to customers by the short ton of 2,000 lbs.

Inability on the part of consumers to identify Alden coal was given as the chief reason why a reduction in price would not result in public goodwill toward Alden Coal Company. In the dealers' bins, it was not possible to distinguish one run of anthracite accurately from another, nor to determine, except by the use of screens, whether the nut coal, for example, was all nut or contained mixtures of the smaller sizes.

Over these marketing conditions the company, which had carefully prepared the coal and sized it accurately, had no control. Consumers, however, often protested to the dealers as to quality, that is, the amount of nonburnable material in the coal, and the sizing. Dealers usually replied that they simply passed on to the consumers what they received from the mines. Most dealers selling Alden coal also sold coal from other mines.

The price of coal to the consumer was customarily double the price paid at the mine. The difference between the mine price and the consumer price was made up of freight, dealers' costs, and dealers' profits.

As a low-cost, well-equipped producer, the company, if it could in some way identify its coal, was willing to give the public the benefit of its low costs, which it could do without sacrifice of reasonable profit.

The company estimated that it probably could sell its coal profitably to dealers for $2 a ton less than could the high-cost producers. Most of the company officials opposed this suggestion, on the ground that neither the producer nor the public would gain. Those officials favored continuing the policy of selling at the current market prices, and retaining the large profits for the company share-owners.

1. Should the company have changed its price policy?

2. Since this company owned the mine it operated, was any part of the income economic rent, and if so, could the amount of the rent be measured?

2. Hartwick Mining Company

CONSOLIDATION OF COPPER MINES

In 1922 the Hartwick Mining Company, which operated copper mines, produced 70,000,000 pounds of copper, or about 3% of the world output. Contiguous to the mines were those of four other companies, in each of which the Hartwick Mining Company owned from 25% to 51% of the capital stock. The companies were operated separately, although sales were made exclusively through the Hartwick Mining Company. In the spring of 1923 the president of the Hartwick Mining Company proposed that a consolidation be effected, in order to operate the mines as a unit and thereby effect production economies.

The properties of the Hartwick Mining Company and of the other companies, the Abbott Copper Mines, the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company, were situated along the outcrop of a vein of copper. The Hartwick Mining Company had been in operation for 60 years; the others for from 20 to 50 years. In this region, copper was mined at costs ranging from 8½ to 14½ cents a pound, and averaging 10½ cents. This average was relatively high; in some mines in Chile, the cost was said to be only 7 cents a pound.

In the spring of 1923 the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company, which were unable to produce and sell copper profitably at less than 13, 14½, and 13½ cents, respectively, were closed. Their properties were smaller than those of the other two companies. A state law required that at least two connected shafts be maintained on the property of every mining company. On the properties of the Bright Mines, Incorporated, and the Noyes Copper Mining Company, one shaft was adequate to secure the ore, and the maintenance of the other shaft was uneconomical. The ore, moreover, contained a smaller percentage of copper than that found in adjacent property, and deeper shafts were necessary to reach the deposits.

Since the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company had no stamping mills, they sent their ore to those owned by the Abbott Copper Mines and the Hartwick Mining Company. All the companies sent their copper to the smelters of the Hartwick Mining Company. These conditions made it necessary that the ores from the different companies be kept separate while they were being refined. Some ores contained inadequate amounts of fluxing agents, such as iron and silica, and others a superabundance of these. Since the ores of different companies could not be mixed during the refining processes to take advantage of such excess supplies of fluxing agents, a distinct waste was incurred. Shops, pumps, and air compressors had to be maintained by each company; these could not be operated economically during the period of curtailed production in the spring of 1923. Since a state law provided for boundary barriers 20 feet on each side of a dividing line, each mine had many blind drifts, or horizontal passages following the vein at intervals of 100 feet along the shaft, into which compressed air had to be pumped for ventilation. These boundaries also made it necessary in many cases to haul ore underground long distances.

When all the mines were in operation, the supply of labor in the region was inadequate to man the shafts fully. The employees' homes were distributed throughout the district where the five companies were located, and the men preferred to work in the nearest shafts, although they were willing to go farther away if those were closed. During periods of high prices for copper, when all the companies required laborers, the more profitable mines could not obtain sufficient men for full capacity operation. A saving in production costs, therefore, would be possible, if all five mines were under one management which could distribute the labor force more effectively.

For a number of years, the total sales of the five companies, which averaged about 150,000,000 pounds of copper per year, had been made by the Hartwick Mining Company. The copper had been sold under two brands. That which came from the mines of the Hartwick Mining Company proper was sold under the Hartwick brand and commanded a price from ⅛ to ¼ cent higher than the "B-M" copper which was taken from the properties of the other four companies. Analysis of the metal, how-

ever, showed almost no difference in quality between the brands.

The demand for Hartwick copper had been built up over a period of years through uninterrupted service. Many customers, especially those who manufactured fine-drawn wire, were reluctant to accept the B-M brand, even at the lower price, when the supplies of Hartwick brand were inadequate. Use of the Hartwick name on the entire output, therefore, would be advantageous.

The five companies customarily mined about 3,000,000 tons of ore a year. This ore was hauled to the smelting mills over the Putnam & Southern Railroad, which had been built for public freight service. Its line was not well adapted to the specific needs of these mines, and transportation of ore was uneconomical because of steep grades and roundabout routes.

In advancing the argument for consolidation, the president of the Hartwick Mining Company stressed the community of interest which existed. Many of the stockholders of each company owned stock in one or more of the other mines. Since the region had to compete with the copper mining districts of South America and Arizona, all possible economies should be effected. Consolidation promised the following mining economies: elimination of the 40-foot barriers which contained valuable deposits of metal, between properties; connection of drifts between mines in order to shorten underground hauls; decreased necessity of drilling through lean rock to reach richer ore; reduction in the quantity of compressed air required to ventilate dead ends; transfer from one mine to another of crews specialized in specific mining operations; and avoidance of duplication of equipment used only at infrequent intervals.

In the mills and smelters the realizable economies were even greater. Mixing of the ore from the different mines with a reduction in the purchases of fluxing material; replacement of the 30,000-pound furnaces with those of 250,000-pound capacity, with a consequent saving in smelter cost of 7/10 of a cent a pound; a decrease in taxation by the discontinuance of four of the five corporations; avoidance of competition between the companies in securing additional mining territory; curtailment of expenses connected with sales and administration: all these would be possible if the consolidation were effected. It was estimated further that the building of a new railroad by the mines would

reduce the cost of handling ore from 18.5 cents to 11.25 cents a ton. When a labor shortage occurred, the available men could be assigned to the shafts where ore was mined at low cost in order to operate them at capacity, while in the higher cost shafts, only the maintenance expenses were incurred.

Several stockholders of the Hartwick Mining Company objected to the consolidation on the ground that it provided for the inclusion of three relatively high cost mines whose stockholders were to receive dividends from profits in the making of which they had had no part. The president pointed out, however, that these properties were situated between the others in such a way that their inclusion in the consolidation was essential to the attainment of the economies outlined. He stated that the varying earning powers of the companies were reflected fairly in the market prices of their common stocks. The terms upon which the companies should join the merger, therefore, could be determined on the basis of comparative common-stock quotations. In the less profitable mines, furthermore, the average life of the shafts was estimated to exceed the average in the other mines by three or four years.

The president computed the savings at $1,000,000 a year, and the earnings at slightly over $2 a share on 2,000,000 shares, with copper at 14½ cents. Exhibit 1 gives the then current market prices of the five companies' common shares, the ratio for exchange of shares in the consolidated company for one share in each of the old companies, and the estimated annual return per share on the independent shares already outstanding.

EXHIBIT 1

RATIO OF EXCHANGE OF COMMON STOCKS OF FIVE COPPER COMPANIES FOR COMMON STOCK OF CONSOLIDATED COMPANY

Company	Price per Share of Common Stock Outstanding	Exchange Ratio	Dividend Rate per Year per Share Outstanding
Abbott Copper Mines	$60.00	2.68	$5.36
Bright Mines, Incorporated	18.00	.80	1.60
Hartwick Mining Company	44.00	1.98	3.96
Noyes Copper Mining Company	8.50	.38	.76
Richardson Mining Company	35.00	1.56	3.12

The estimated earnings, at various sale prices for copper, of the five companies operating independently and under the consolidation are shown in Exhibit 2.

EXHIBIT 2

ESTIMATED EARNINGS, AT VARYING SALE PRICES OF COPPER, OF FIVE COPPER COMPANIES OPERATING INDEPENDENTLY AND UNDER CONSOLIDATION

Company	Estimated Earnings Independently	Estimated Earnings Under Consolidation
	14½-Cent Copper	
Abbott Copper Mines	$1,073,000	$1,254,000
Bright Mines, Incorporated	97,000	187,000
Hartwick Mining Company	2,357,000	2,808,000
Noyes Copper Mining Company	none	80,000
Richardson Mining Company	151,000	351,000
Total	$3,678,000	$4,680,000
	15½-Cent Copper	
Abbott Copper Mines	$1,300,000	$1,565,000
Bright Mines, Incorporated	161,000	234,000
Hartwick Mining Company	3,060,000	3,504,000
Noyes Copper Mining Company	23,000	99,000
Richardson Mining Company	297,000	438,000
Total	$4,841,000	$5,840,000
	16½-Cent Copper	
Abbott Copper Mines	$1,526,000	$1,876,000
Bright Mines, Incorporated	226,000	280,000
Hartwick Mining Company	3,761,000	4,200,000
Noyes Copper Mining Company	46,000	119,000
Richardson Mining Company	444,000	525,000
Total	$6,003,000	$7,000,000

To compensate the stockholders of the currently productive mines for a possible reduction in the customary dividend and to recognize the favorable cash position of the Richardson Mining Company, it was proposed to allow the Abbott Copper Mines $5 a share in cash, the Hartwick Mining Company $1.25 a share in cash, and the Richardson Mining Company $1 a share in cash.

The five companies voted to adopt the plan. The stockholders of the Bright Mines, Incorporated, the Noyes Copper Mining Company, and the Richardson Mining Company were permitted to share in the profits of the consolidation through conversion of their shares at the suggested ratios.

1. Under what conditions of demand would each of the companies have found it profitable to operate independently?

2. Was the consolidation equally advantageous to each mine?

3. Was any of these mines a "marginal producer" with copper at 13-13½ cents; at 14½ cents; at 15½ cents; at 16½ cents?

4. Would the effect of rising general prices be the same upon these mines as upon the Elfin Mining Company (page 169)?

XXIV

INTEREST

Black, 383-416; Bye, 86-102, 342-390; Clay, 92-106, 214-228, 314-327, 345-350; Edie, 247-294; Ely, 490-512; Fairchild, I, 355-368, II, 163-201; Gide, 113-126, 554-572, 733-740; Marshall, 71-82, 220-236, 412-424, 518-522, 533-534, 580-595; Rufener, 442-482; Seager, 140-151, 262-282, 313-321; Seligman, 317-332, 394-412; Taussig, II, 3-61, 122-130; Turner, 467-526.

1. Arnold Wainwright Company

PURCHASE OF MACHINERY

The Arnold Wainwright Company owned a canning factory in which it preserved cherries, beets, rhubarb, apples, and other fruits and vegetables. During the cherry season in 1922, the company incurred in one day a loss of more than $1,000 through the breakdown of one of its automatic cherry-pitting machines. As a result, in the spring of 1923 the factory manager analyzed the functions of this machine to ascertain whether or not the company should purchase an additional machine for emergencies.

Both sweet and sour cherries of several varieties were preserved at the factory. They became ripe during the latter part of June and the first portion of July. The period during which they were suitable for canning varied from 10 days to several weeks, depending upon weather conditions.

When the first cherries had ripened sufficiently for preserving purposes, the company announced throughout the farming district in which it was located the prices at which it was willing to receive deliveries of each grade of cherry. During the subsequent canning period daily prices at the factory were based upon market quotations from neighboring cities. The company had operated its factory for many years, and the farmers in the vicinity regularly took cherries in trucks or wagons to the factory platform. There the cherries were weighed, and the farmers were paid in cash at the day's price for their fruit.

After having been weighed, the cherries were held in baskets on the receiving platform. If they were not to be used the day that they were received, they were placed in vats filled with water to prevent spoilage for one or two additional days. Whenever possible, the company preserved each day's deliveries without delay. When several days of unusually warm weather occurred, it frequently happened that the cherries became so ripe before they were picked that it was impossible to keep them more than a few hours without rapid and almost complete deterioration.

It was the practice of the Arnold Wainwright Company to preserve only one kind of fruit or vegetable at a time. When the cherry season was active, therefore, all processes in the plant were devoted to the canning of cherries only. The factory was laid out so that the cherries were carried by hand in baskets from the receiving platform to a room in which were three picking tables, a sorter, two automatic pitters, and two tables on which the pitted cherries were placed in the cans in which they were to be preserved.

The entire operation performed by the pitting machine was automatic. The only hand labor involved was in pouring the sorted cherries into the feeder and in removing the baskets of pitted cherries and the buckets of pits. The delicate mechanism of this machine, which provided that each cherry be placed in a small individual holder so that the pit should be pushed out at the proper angle, was such that the speed of the machine could not be increased above the normal rate without danger of disturbing its accuracy. A pitting machine of the size and model used by the Arnold Wainwright Company was capable of pitting one ton of cherries per hour.

Supervision over all processes was maintained by the factory manager or his assistant, one of whom moved continuously from one point to another in the factory during working hours. The successful operation of the factory depended upon continuous flow of work from one process to the next. An interruption at any point caused the entire mechanism of the factory to be thrown out of balance. Delays in the flow of materials caused partial or complete loss of time by the employees, of whom there were 50 or 60 in normal seasons. Such delays also were likely to cause additional and heavier losses through the deterioration

of materials. It was these circumstances which caused the loss of more than $1,000 in one day during the summer of 1922. On that occasion one of the two cherry pitters completely broke down. Although the second pitter continued to operate, the flow of work was reduced one-half with a consequent loss in direct labor and overhead costs, as well as a spoilage of several tons of cherries during the time of the breakdown.

The pitter could not be repaired until 10 hours had elapsed. The construction of the machine made it necessary in cases of serious mechanical defects to send for a skilled mechanic who represented the manufacturer of the pitting machine. This manufacturer maintained representatives in each center of canning activity. The representative was trained to make all repairs on the pitting machines, but his services frequently could not be obtained until many hours or sometimes an entire day had elapsed. Although the town in which was stationed the representative nearest to the Arnold Wainwright Company's factory was distant from the latter by only 15 miles, there always was the possibility that the repair man might have been called to another canning factory to make similar repairs. In the rural districts these representatives were equipped with automobiles in which to travel from one factory to another. They carried with them complete supplies of parts.

When a breakdown occurred in the factory of the Arnold Wainwright Company, the flow of cherries was reduced, but it was impractical either to use the unoccupied employees for other temporary work or to lay them off a half day or more. The latter course was inadvisable for two reasons. In the first place, it was never certain how much time would elapse before a machine could be repaired. In the second place, the employees were accustomed to working full days, often as long as 10 or 12 hours, and to lay them off because of defective machinery interfered with internal discipline and factory morale.

The company could not afford to employ continuously a mechanic who possessed sufficient training to make all repairs on the cherry-pitting machines. The manufacturer of the machines provided thorough instructions in repair work only to his own employees. The latter received a compensation which the Arnold Wainwright Company could not afford to pay, since the cherry season lasted at most only a few weeks, and a man with

the necessary training could not be used advantageously during the rest of the year.

The pitting machines were sold at approximately $1,300. An increase in the capacity of the factory for canning cherries was not expected. Consequently the third machine would be used only in case either of the other two should break down. The company paid its employees an average wage of $4 a day. During the canning season, the company engaged practically all the local supply of workers. It could not increase its work force substantially without sending to distant localities where it would have to offer higher wages and free transportation to induce laborers to come to the factory. It was the company's experience that the cherry-pitting machines ordinarily broke down only after many hours or days of continuous usage. The probability of a breakdown of the reserve pitter in an emergency, therefore, was slight, because it was to be used only until the defective machine had been repaired.

No strain would be imposed on the company through purchasing another cherry pitter, since it had accumulated adequate surplus funds. At the time of the case, these funds could be invested, however, to yield interest at the rate of about 5½%.[1]

1. Contrast this case with that of Richmond, New Hampshire, page 87.

2. Should the company have purchased the additional machine?

3. Would the purchase have benefited the local supply of laborers?

4. If for some cause the available labor supply had been reduced one-half, would the company have needed the additional machine?

2. Illinois Central System

RECEIPTS AND EXPENDITURES

The Story of a Dollar

We have made it a practice for several years to give the public information concerning the receipts and expenditures of the Illinois Central System in the simplest possible form. We tell where each cent of

[1] For statements concerning various types of interest rates, see cases of Lindley, Brandt, & Flint, page 213, and of Federal Reserve Policy, page 233.

the average dollar received comes from and where each cent of it goes. Herewith is presented that information for 1925 and 1924:

WHERE THE DOLLAR CAME FROM

	Cents	
	1925	1924
Transportation of freight (1925—58,207,077 tons; average distance per ton—255.84 miles; average revenue per ton per mile—0.921 cent. This compares with 0.925 cent average revenue per ton per mile received in 1924)	74.05	73.21
Transportation of passengers (1925—34,586,282 passengers; average distance per passenger—27.99 miles; average revenue per passenger per mile—2.913 cents. This compares with 2.996 cents average revenue per passenger per mile in 1924)	15.22	16.13
Transportation of mail	1.38	1.38
Transportation of express	2.18	2.32
Sources related to freight service, such as demurrage and storage and special service	0.45	0.40
Switching service	1.12	1.12
Sources related to passenger service, such as operation of parlor cars, excess baggage, etc	0.75	0.76
Hotel, restaurant, dining, and buffet service	0.58	0.55
Station and train privileges and miscellaneous	0.39	0.36
Rents of equipment, road, buildings, and other property, joint facilities and miscellaneous income	2.33	2.27
Income from corporate investments	1.55	1.50
	100.00	100.00

WHERE THE DOLLAR WENT

	Cents	
	1925	1924
Maintenance of tracks, roadbed, buildings, bridges, and other structures	14.16	13.17
Maintenance of locomotives, freight and passenger cars, and other equipment	15.06	16.25
Train, station, and switching operations and other transportation service	25.82	26.09
Traffic agencies, compilation and issuance of tariffs, miscellaneous traffic expenses	1.65	1.55
Hotel, restaurant, dining, and buffet service	0.71	0.66
Fuel	6.13	7.20
Salaries of clerks and other general office employees	1.25	1.28
Legal expenses	0.25	0.23
Pension department expenses	0.24	0.22
Salaries of general officers	0.19	0.20
Valuation expenses	0.09	0.09
Miscellaneous general expenses	0.38	0.37
Depreciation and retirement of equipment	5.74	5.48
Loss, damage, and casualties	1.41	1.45
Rent of equipment, leased lines, joint facilities, and miscellaneous rents	2.94	2.25
Interest on bonds and other interest charges	7.63	7.46
Dividends on capital stock	5.44	5.07
Taxes	6.87	7.05
Balance available for enlarging and improving the property	4.04	3.93
	100.00	100.00

Constructive criticism and suggestions are invited.

C. H. Markham
President, Illinois Central System

Chicago, March 1, 1926

1. From these statements, would you conclude that capital once saved and invested can be maintained without further "abstinence" on the part of its owners?

2. What items in the preceding table bear upon this point?

3. Robert L. Hunt, Investor

INVESTMENT OF SAVINGS

In 1923 Robert L. Hunt was making payments on insurance policies totaling $30,000, the annual premiums on which amounted to about $750. On the salary which he received as purchasing agent of a department store in a city with a population of 150,000, he was able to support his wife and daughter and, by careful management, to save about $600 a year. He had accumulated $1,800 in a savings bank which paid interest at 4%, but, as he wished to increase his estate at a more rapid rate than 4% a year, he intended either to take out additional insurance or to invest his savings in sound 6% bonds.

In 1917 Mr. Hunt had married, at the age of 30, and had taken out his first insurance policy, a $5,000, 25-year endowment on which he paid annual premiums of $32 a thousand. When his daughter was born, Mr. Hunt had begun payment on a $5,000 endowment policy which would be paid up at the time she should be ready for college. The premium rate on this policy was about $40 a thousand.

In the period from 1919 to 1923, Mr. Hunt had begun payments on two more insurance policies. One of these was a $10,000 accident policy on which the premium was $18 a year. The other was a $10,000 endowment policy on which the premium amounted to about $36 a thousand a year. Payments on this policy would be completed by the time Mr. Hunt was 60 years old. The policy provided that Mr. Hunt would receive $36 a month from the time payments were completed until he died, or, in case of his total disability, $50 a week for two years, or, in the event of his partial disability, $25 a week for the same period.

Moreover, by payment of an extra annual premium of $4 a thousand, Mr. Hunt could double the face value of the policy should he die by accident.

Once, before marrying, Mr. Hunt had tried speculating on the stock exchange. He had purchased American Can common stock with $100 which he had saved. On this purchase, he had neither made nor lost money. After marriage, he had decided that he could not afford to risk his small savings speculating on the exchange and that he could protect his wife's interests best by purchasing life insurance. He had not purchased bonds, because his savings had been small and he could not create immediately so large a fund by investing in bonds as by taking out insurance.

Mr. Hunt was convinced that a 20-payment or 30-payment life policy or a 20-year or 30-year endowment policy was more suitable for him than a straight life policy, because the limited number of payments would enable him to pay the policy up during his years of greatest earning power. The premium rate was higher on a 20-year endowment policy than on a 20-payment life policy, because an endowment policy yielded a return immediately upon the completion of the premium payments. The premium on an endowment policy might be considered as the sum of two premiums: one, a payment for protection in case of

EXHIBIT 1

CASH VALUE OF 20-YEAR, $1,000 ENDOWMENT POLICY COMPARED WITH CASH VALUE OF 20-PAYMENT, $1,000 LIFE POLICY PLUS THE AMOUNT OF THE DIFFERENCE IN PREMIUMS ON THE 2 POLICIES INVESTED AT 6% COMPOUNDED SEMIANNUALLY

Number of Years from Date of Policy	Cash Value of 20-Payment, $1,000 Life	Difference in Premiums* at 6% Compounded Semiannually	Total	Cash Value of 20-Year, $1,000 Endowment
1	$ 17.30	$ 15.70	$ 33.00	$ 32.74
5	93.46	88.68	182.14	177.83
10	206.47	207.85	414.32	395.98
15	343.07	368.01	711.08	661.91
20	508.49	583.12	1,091.74	1,000.00

*Premiums on life policy taken as being $7.51 less semiannually than premiums on endowment policy. Based on published rates for United States Government insurance for age 30.

death; and the other, an investment to provide cash at the end of the period.

It was suggested that Mr. Hunt purchase a 20-payment life policy instead of a 20-year endowment policy and invest the amount of the difference in the premiums on the 2 policies at 6% interest compounded semiannually. Exhibit 1 shows the cash value of a 20-year, $1,000 endowment policy for 5-year intervals as compared with the cash value of a 20-payment, $1,000 life policy plus the value of the difference in premiums if invested at 6% compounded semiannually. Published rates for United States Government insurance for age 30 were used as typical of the relationship between the premiums on the 2 types of policies.

The comparison shown in Exhibit 1 indicated that Mr. Hunt would find it more profitable to purchase the life policy and invest the amount of the difference between premiums on that policy and on the endowment policy, than he would to purchase the endowment policy. Mr. Hunt's wife, as beneficiary, would be protected as well by one policy as by the other in the event of his death. If he purchased the life policy and invested the saving in premiums as suggested, his wife would have, in case he died, the funds so invested as well as the value of the insurance.

It was pointed out that Mr. Hunt might find it even more profitable, however, to invest the total amount of the premiums required on a 20-payment life policy at 6% compounded semi-

EXHIBIT 2

CASH VALUE OF $1,000, 20-PAYMENT LIFE INSURANCE POLICY COMPARED WITH VALUE OF PREMIUMS ON THAT POLICY IF INVESTED AT 6% COMPOUNDED SEMIANNUALLY

Number of Years from Date of Policy	Premiums on 20-Payment $1,000 Life Policy ($25.02 annually) Compounded Semiannually at 6%	Cash Value of 20-Payment, $1,000 Life Policy
1	$ 26.15	$ 17.30
5	147.71	93.46
10	346.23	206.47
15	613.02	343.07
20	971.57	508.49
25	1,305.71	683.37*
30	1,747.32	918.39*

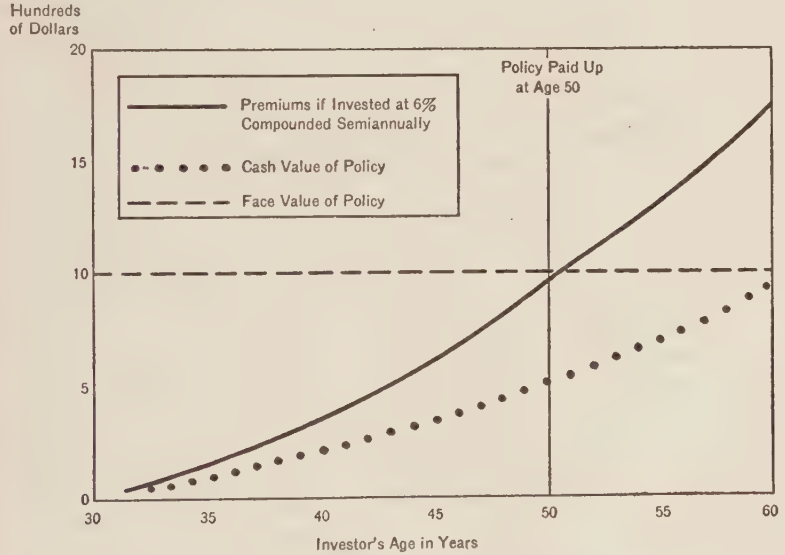
*Cash value of paid-up policy plus interest at 6% compounded semiannually.

NOTE: Calculations of interest based on *Gibson's Simplified Compound Interest and Functioning Tables*, pp. 47 and 75.

annually and not take out any insurance. On the assumption that the premiums on a 20-payment life policy, amounting annually to $25.02 per $1,000, were invested in this way, the comparison shown in Exhibit 2 was prepared.

According to the information in Exhibit 2, the value of the amount of the premiums on a 20-payment, $1,000 life policy invested at 6% compounded semiannually always was greater than the cash value of the insurance policy. Mr. Hunt's wife would be protected more adequately by the insurance than by the investment of the premiums during the 20 years that payments would be made on the policy. From the time payments were completed, however, the invested fund would outgrow rapidly the value of the paid-up policy. The comparative values as given in Exhibit 2 are shown graphically in Exhibit 3.

In 1923 funds could be invested currently in sound bonds to



NOTE: Cash value of policy after 20 years taken as cash value of paid-up policy plus interest at 6% compounded semiannually.

SOURCES: *Premium Rates and Information Regarding United States Life Insurance*, published by United States Veterans Bureau, Washington, D. C., April, 1922, p. 15.
Gibson's Simplified Compound Interest and Functioning Tables, pp. 47 and 75.

Exhibit 3: Cash value of $1,000, twenty-payment life insurance compared with value of premiums if invested at 6% compounded semiannually.

return 6%. Savings of less than $1,000 usually could not be used to purchase bonds. An investment banking firm, however, with offices in New York, Chicago, Philadelphia, Boston, and other large cities, had devised a plan which enabled small investors to buy securities as their savings accumulated monthly. A booklet issued by this firm set forth the plan as follows:

The investor selects from our extensive list of bonds an issue which suits his requirements as to type, denomination ($100, $500, $1,000), maturity, and yield. The only limitation placed on selections of bonds to be purchased under this plan is that they must be our own bonds which we have on hand as part of our original purchase. The plan does not apply to the purchase of bonds which we purchase on the market on customers' orders, or to Liberty bonds. Our own original holdings, however, are always extensive enough to meet any ordinary requirements, and the fact that they represent issues of our own underwriting is an assurance that they have measured up to exacting standards.

The purchaser makes his first payment of at least 10% of the par value of the bonds purchased and agrees to complete payment in like amounts during succeeding months. The purchaser, of course, may complete payment at any time that he desires. As title to the bond remains in us during the period of payment, we retain the bond interest, and, in turn, allow interest on all payments from the date of receipt to the date of final payment, the rate depending upon money market conditions—thus the buyer obtains the benefit of a profitable rate of interest while his funds are accumulating.

If the purchaser finds it necessary to discontinue his payments before completed, he authorizes us to sell the bond toward which his payments have been applying, at the prevailing market price. After adjustment, if any, resulting from change in the market price of the issue, his funds are returned to him with interest.

The investor under this plan obtains an attractive return starting with his first payment. Without waiting until he has the full amount necessary to make the investment, he obtains interest on his funds while accumulating and, if after the payments are completed he finds it necessary to sell his bonds, he obtains interest on his investment to the very day of sale.

Another advantage of this plan is that it provides the necessary system, obligation, and incentive so necessary to successful accumulation. The system is provided through the regular, periodic payments; the obligation, by the contract existing between the buyer and ourselves; the stimulus, by the desire of the buyer to own the bond which is the end toward which he is working.

The average person is extremely reluctant to part with a bond when once acquired. He looks upon it as a definite accomplishment and as a part of his estate which is not to be disturbed except in case of

extreme necessity. Thus bond investments have a distinct advantage over cash or bank balances which are sometimes expended, largely because of their ready availability.

This firm had charts illustrating the rapidity with which a large fund could be accumulated under a plan of systematic saving. For instance, a fund of $25,000 could be built up in 20 years by the investment of $54.31 monthly at 6% interest, the amount of the interest being invested as earned. Similarly, a fund of $50,000 could be created in 30 years by the investment of $50.23 a month at 6%.

1. What course should Mr. Hunt have followed?

2. How does life insurance affect the savings of (*a*) individuals? (*b*) the community?

3. According to the plan described, "the buyer (of bonds) obtains the benefit of a profitable rate of interest while his funds are accumulating"—Would you agree?

4. In the case of the Illinois Central System, page 356, it is shown that in one year that corporation "saved" 4.04% of its 1925 income. Contrast the probable attitude of the railroad board of directors toward this saving, with Mr. Hunt's attitude toward the accumulation of an estate.

5. In the case of the Arnold Wainwright Company, page 353, the company was considering investment in a new machine. Were its purposes similar to Mr. Hunt's?

6. How would you account for the fact that bonds could be bought to yield a higher rate than 4%?

7. Were Mr. Hunt's savings at, above, or below the margin of the supply of savings?

8. If Mr. Hunt had expected the total amount of money of all kinds in the United States to be doubled shortly, should he have been content with a 4% return on his savings? A 6% return?

4. Mayo Company

INSTALLMENT SALES

In 1922 the Mayo Company decided to lease some unused space in its department store to a company operating leased departments in various stores. The operating company was to open a phonograph department which was expected to attract new customers

to the Mayo Company's store. From its experience in other departments, the management of the Mayo Company anticipated that at least 75% of the sales in the phonograph department would be made to persons of moderate means.

The department store of the Mayo Company was located on the main shopping thoroughfare of a large city. Installment sales were made only of certain specified articles, such as washing machines, vacuum cleaners, sewing machines, and electrical equipment. In its installment sales, the store had used conditional sale contracts.

The phonograph department was to sell several kinds of phonographs and records, with a wide range in price: table models ranging in price from $25 to $75, portables from $8.50 to $50, upright cabinets from $100 to $275, and consoles from $110 to $750, with an expected average sale of $175. Although the prices of records would range from 75 cents to $5 each, the most popular prices were expected to be 75 cents, $1.50, and $2.

The management of the Mayo Company expected that the total annual sales of the phonograph department would be about $100,000, of which 30% to 35% would be sales of records. The store was to make collections for the department and, therefore, had jurisdiction over the question of whether or not phonographs and records should be sold on the installment plan.

For the preceding 25 to 30 years, pianos and sewing machines had been sold by department stores on a deferred payment basis. This method had been adopted so that persons of moderate means could afford the pleasure or comfort derived from the use of such articles. The credit manager of the Mayo Company believed that selling such merchandise on a deferred payment basis formed a strong selling appeal for these articles and markedly increased their sales. He estimated that 500 sewing machines were sold on part payment to each one that was sold for cash. People of moderate means had been willing to purchase household machines if they could be obtained without too great an original expenditure. Deferred payment plans had brought the purchase of these articles within the range of moderate incomes.

Kitchen ranges sometimes had been sold by department stores on the installment plan, but the credit manager of the Mayo Company believed that this policy had been less successful in increasing the distribution of kitchen ranges than of pianos and

sewing machines. Since the purchasers of ranges usually were property owners, ordinarily they could afford to pay for the ranges at once and, thereby, save the interest charges made on deferred payment sales. On the other hand, he believed that deferred payments had increased greatly the distribution of automobiles.

Sometimes the companies which sold on an installment basis exploited their customers by charging interest at 6% per year on the total amount of the credit given at the time the sale was made; thus, when part of the total amount had been paid, the customer still was paying 6% a year on the entire amount. The Mayo Company, however, did not follow this practice, but charged interest only on the monthly balance which was owed.

The credit manager of the Mayo Company believed that, if it was used intelligently, the deferred payment plan of purchasing formed a useful budget system for customers. The chief disadvantage in this connection was that a customer might pledge too large a part of his income in this way; consequently, any unexpected expenses might involve him in financial difficulties, because he would not have a surplus for emergencies. Phonographs were primarily a luxury, but the credit manager thought they were an economic advantage, in that they increased people's interest in their own homes by bringing music into those homes. Since a phonograph was a luxury, there was a possibility that the installment system would lead purchasers to buy more expensive machines than they could afford to purchase. For that reason, the credit manager advocated that the Mayo Company follow the policy of not promoting installment sales on high-priced machines. This might not seem at first to be a profitable policy for the store, but, in the end, the sale of a moderate-priced machine which was not returned would be more profitable to the store than the sale of a higher-priced machine which later was returned because the customer could not make the payments on it.

According to the suggested plan, the maximum time to be allowed customers for completing payment would be 12 months, and notes were not to be taken in payment. Ten per cent of the regular retail price was to be required as the initial payment; the balance was to be paid in equal monthly installments, with interest on the unpaid balance at the rate of 6% a year, payable ½ of 1% monthly. In computing the interest to be charged, the

store would deduct the first payment from the total amount of the sale and would charge the customer no interest for the first 30 days. If a customer purchased merchandise on an open account, the store granted him credit for approximately 30 days, and it wished to give equal terms to all its customers. At the end of the first 30 days, if the second payment was made, it would be deducted from the total then due and interest would be charged on the balance during the next month. This process would be carried out until the total amount was paid. Since the store was able to borrow money from banks at interest rates of from 4½% to 5%, it could meet some of the extra bookkeeping and collection expenses entailed in installment sales by the difference in the amount of interest received and the amount paid.

1. Should the Mayo Company have adopted an installment sales plan for the phonograph department?

2. If so, should that plan have applied to the high-priced machines? to records?

XXV

PROFITS

Black, 442-467, 511-537, 622-639, 747-751, 823-857; Bye, 168-189, 436-453; Clay, 64-91, 314-327; Edie, 221-246; Ely, 513-532; Fairchild, II, 71-91, 256-272; Gide, 657-673, 745-749; Marshall, 596-628; Rufener, 67-74, 84-85, 143-155, 582-601; Seager, 198-212; Seligman, 352-372, 598-611; Taussig, I, 156-166, II, 164-207.

1. Ilman Company

CONTRACT WORK

In 1921 the Ilman Company was manufacturing women's clothing in Cleveland. In December, 1919, an association representing approximately 30 of the principal women's garment manufacturers in that city, among them the Ilman Company, had entered into an agreement with a labor union in the trade. The agreement established terms of employment in the shops of the manufacturers signatory to it and set up a board of arbitration to fix basic wage rates and to adjust disputes that arose in the course of shop operation. Early in 1921 the union alleged that one firm in the association was violating the agreement by sending work outside of its plant to be done by contractors who were paying wages less than those established by the arbitrators. In presenting this charge, the union representatives alleged that the Ilman Company was giving work to "outside shops" while the workers in its factory were idle.

The Ilman Company was organized to produce on a large scale. This was also true of most of the manufacturers in the association. The equipment used in the trade, however, was not such as to make its concentration in a large plant especially advantageous. The equipment was light and inexpensive. Its units were operated by individual workers, and for the most part were driven by electric power.

No technical manufacturing staff was needed in any plant, regardless of its size, for the reason that mechanical problems

concerning equipment were dealt with by the equipment manufacturers. The only technical staff required in the industry was that in charge of creating and modifying designs. These functions could be performed by jobbers or manufacturers, whether they controlled the actual manufacturing operations, or merely furnished materials and patterns to subcontractors for making up.

Outside shops frequently could undertake work at prices less than the large-scale manufacturers had to pay to have the work done in their plants. The employees in outside shops in this industry usually were drawn from the neighborhoods of the shops; they spent no car fare in going to and from work, the women among them could dress inexpensively, and they could work in the shops in addition to carrying on their household duties. The fact that these women's wages were a supplementary part rather than the chief source of the family incomes tended to cause their acquiescence in terms offered them by the contractor.

The proprietor of an outside shop had small overhead expense. In New York City some of the work was carried on in the living quarters of the contractors, but in Cleveland, fire regulations prohibited the use of pressing equipment in the home, and in that city outbuildings of cheap construction housed the manufacture. The contractor acted as the supervisor in the shop, and he insisted upon maximum performance. The supervisory expense was low and the supervision, of its kind, was effective.

Little capital and only a limited degree of administrative ability were required to begin business as a contractor. The number of contractors tended to become excessive, and in their competition for work they quoted prices which yielded them, as proprietors, annual individual incomes less than the average yearly wages of employees in their shops. As wages were a contractor's chief item of outlay, he concentrated attention upon methods of reducing them. The organization of the industry, and the circumstances under which it was conducted, caused the free and individual bargaining system to result in the employees' exploitation. The contractor drove his workers at top speed on profitable contracts so as to gain additional work of that kind. The speed reacted unfavorably on quality. When the contractor made a poor bargain with one manufacturer, he attempted to obtain work from some other manufacturer and put off the

making of the unprofitable lot. The manufacturers, as a result, did not have strict control over manufacturing operations.

Garments made in the factory ranged in selling price from $7.75 to $65, and those made in the outside shops ranged in price from $7.75 to $42.50. In some cases, garments of the same style were made up in outside shops and also inside the factory. Their labor cost in the outside shops was less than their labor cost inside the factory by as much as from 20 cents to $1 a garment. In some instances the outside shops returned the garments and refused to make them because the piece price offered was too low. After negotiations, higher prices were agreed upon in some of those cases. The outside shops paying the union rate of wages had had the most difficulty with the firm in this regard.

An impartial arbitrator, after surveying the situation, ordered the Ilman Company not to give work to any outside shop except upon reasonable knowledge, after investigation, that it was a proper shop, particularly in the matter of sanitation, wages, and hours. The chairman listed 12 shops as "improper." No work was to be sent to any of those shops until the managers of the union and of the association had approved them.

In his investigation the arbitrator found that the Ilman Company had sent work to several outside shops which were unsanitary and whose working conditions were below the standards adopted for the industry by the union and the manufacturers' association. Five of the outside shops, however, met with the chairman's approval.

Three of the shops used by the Ilman Company appeared to be cleaning shops primarily in which manufacturing work was taken only during dull times. Four of the shops used by the company were paying rates less than those established by the referees. Two shops were household establishments. The arbitrator reported one of these shops to be "one of the worst places in which garments are being made. The man in charge is an invalid who lives with his wife and daughter in two rooms and an alcove. One immigrant man is working with them. The place is thoroughly unsanitary."

The arbitrator ordered the firm further not to give work to outside shops at any time when the inside workers were idle. He stated that the firm must adhere to the general policy of the local industry, which recognized the obligation of the manufac-

turer to keep his employees occupied with work in so far as possible.

1. Were the incomes received by the outside contractors "business profits"?
2. Do you agree that there is an obligation upon employers to keep employees occupied with work as far as possible?

2. Chicago Board of Trade

Operation of commodity exchange

The grain market at Chicago developed because of the strategic position of that city as a lake shipping point located in proximity to the grain-growing areas. With the development of railways, Chicago continued to be the logical focusing point for the activities of persons interested in buying and selling grain; it remained, however, a storing and shipping point rather than a consuming center. In 1922 there were 10 important primary markets for grain in the United States—Chicago, Minneapolis, Duluth, St. Louis, Kansas City, Milwaukee, Omaha, Peoria, Toledo, and Detroit—of which Chicago was the largest, receiving about 400,000,000 bushels of grain each year. Although Chicago had higher total receipts of all kinds of grain than any other primary market, several other cities had larger wheat receipts.

The Chicago Board of Trade began as a voluntary association of busines men interested in commercial and financial matters, and gradually developed into a market place in which trading was carried on in flour, grain, salt pork, lard, short ribs, and other provisions. The Board of Trade was a corporation holding a charter from the state of Illinois. It did no trading on its own account but furnished its members with market information and with a place to trade, subject to the rules of the Board. The individual members traded with one another either as principals or as agents for outsiders.

In the trading room of the exchange there were 52 tables for the display of samples of cash grain. Each table could be used by as many as four firms. In the same room were four circular "pits" for wheat, corn, oats, and provisions, where trading in futures took place. To facilitate the operations of dealers buy-

ing grain "to arrive," all bids were recorded at a desk and at once posted on a large blackboard. A large number of telephones, telegraph instruments, and tickers, in combination with large blackboards, provided a means of securing and rapidly disseminating market information.

The following classification of the members of the Chicago Board of Trade was made in 1919:[1]

CLASSIFICATION OF MEMBERS, CHICAGO BOARD OF TRADE, YEAR 1919

Cash grain trade	394	Seed and miscellany	14
Futures trading	393	Oats products	14
Brokers	385	Corn products	10
Terminal elevators	50	Railroads	10
Pit scalpers	48	Steamships	9
Packers	44	Salvage grain	8
Provisions	41	Line elevators	8
Feeds	35	Stockyards	1
Exporters	27	Vinegar	1
Flour mills	24	Inactive	70
Banks	16		
Maltsters	15	Total	1,617

A futures trade is a sales transaction calling for delivery at some future time. Contracts for future delivery are common in many lines of business. In the case of the Chicago Board of Trade, futures trading apparently was an outgrowth of "to arrive" sales. Since the storage capacity at Chicago for many years after the organization of the Board of Trade was limited, it was a convenience for both buyer and seller to make contracts agreeing that grain should be delivered in Chicago within a specified time—that is, to arrive in 5 days, or to arrive in 10 days. Gradually, it became the custom for grain to be sold for 10, 20, 30, or as many as 60 days' delivery. After a system of inspection had been inaugurated and standard grades established, and after it had become possible to secure price information frequently from other markets in America and Europe, the Board of Trade adopted rules for the protection of buyers and sellers operating on the futures contract basis, and futures trading was thus formally adopted as a regular market practice.

The Chicago Board of Trade in 1922 was the predominating market in the United States for organized futures trading in grain; the volume of futures trading at Chicago was much greater than at any other grain exchange in the United States. The futures contract was made upon the basis of a specified grade of

[1] James E. Boyle, *Speculation and the Chicago Board of Trade*, p. 16.

grain, known as "contract grade." The contract provided for delivery either on the buyer's demand or at the seller's pleasure at any time within a specified month at the price fixed in the contract. In the case of wheat, contracts for future delivery were entered into only for the months of September, December, May, and July. Provision was made in the rules of the Board of Trade whereby other grades might be delivered on the basis contract with stipulated adjustments in price. For instance, on contracts for future delivery a tender of No. 3 Dark Hard Winter Wheat, No. 3 Hard Winter Wheat, No. 3 Yellow Hard Winter Wheat, No. 3 Red Winter Wheat, No. 1 Hard White Wheat, and No. 2 Hard Winter Wheat was deemed valid, subject to the regular provisions of the Rules, at a discount of 5 cents a bushel. Similar regulations prevailed in regard to corn, oats, rye, and barley.

The delivery of grain on the exchange was effected by the transfer of warehouse receipts issued by regular elevators. In order to issue warehouse receipts a warehouse had to conform to regulations prescribed by the Rules of the Chicago Board of Trade. The receipts themselves had to conform to stipulated regulations and had to be registered by an officer duly appointed for that purpose.

Most futures contracts made on the Chicago Board of Trade and other speculative markets were settled by the payment of differences. Although a futures contract was valid in the eyes of the law, and actual delivery of the commodity legally could be insisted upon, it was stated that normally not more than 1% of the futures contracts entered into on the Chicago Board of Trade were consummated by actual delivery of the grain. At the time of settlement, if the spot price was higher than the price named in the contract, the difference was paid by the seller; if the spot price was lower than the price named in the contract, the buyer paid the difference.

Both cash grain and futures were sold on the same floor at the Chicago Board of Trade, and many members of the Board customarily made deals on both cash and futures markets. As can be seen from the classification of members, about one-fourth primarily were engaged in receiving and selling consigned or to arrive grain, or in shipping cash grain. Samples of cash grain were distributed on the tables early in the morning. Trading

began at 9:30, but buyers and sellers usually spent the first hour largely in feeling out the market. The buyers comprised representatives of terminal elevators, shippers to eastern mills, flour millers, manufacturers of cereal products, feed manufacturers, and exporters. The chief sellers were the commission merchants who handled consigned grain. Since the rules of the Board of Trade forbade them to act as both principal and agent in the same transaction, grain consigned to them had to be sold in the open market. In addition to selling consignments of grain, the commission merchants financed country shippers extensively by making advances against bills of lading, called for reinspection in cases where they thought the grades could be raised, and as agents for the country shippers filed and pushed claims for shortage and damage of grain in transit. The rules of the Chicago Board of Trade prohibited a commission merchant from rebating any part of his commission to the shipper.

Approximately another fourth of the members were engaged principally in trading in grain futures; these were the professional speculators. They operated on the "long" or "short" side of the market, as their judgment dictated, and a majority of them did not engage ordinarily in the handling of actual grain. Brokers, who acted as agents for others both in cash grain and futures, principally in the latter, made up roughly another fourth of the membership. The rate of commission on the cash grain business was substantially the same on all markets, namely 1% of the value of the grain. Normally the volume of futures trading in any one day on the Chicago Board of Trade was from 10 to 20 times as great as the volume of cash or to-arrive grain sold. Commissions on futures trades, fixed by the Rules, in 1922 were ¼ cent a bushel for what was known as the "round turn"—that is, both buying and selling. No commission was charged on futures trading done by members for themselves; on futures trading by members for other members the commission was ⅛ cent a bushel for the round turn. A large part of the trading in futures was carried on by members for themselves.

Futures trading on the Chicago Board of Trade ordinarily was done on margins. A person buying 5,000 bushels of wheat at $1 a bushel for future delivery, for example, usually was required to put up a margin of $500, and the same amount was required from a person selling 5,000 bushels short at $1. In the event

of a substantial price change before the maturity or liquidation of a futures contract, a readjustment in the margin was called for.

Although trading in cash grain and transactions in contracts for future delivery were carried on simultaneously on the same floor, the two kinds of business were sharply differentiated in purpose. In a large proportion of futures transactions there was no intention on the part of either party that the contract should be fulfilled by actual delivery of the commodity named, though legally either party could insist on such delivery.

In the case of commodities in which there is futures trading, those owning the actual commodities can relieve themselves of the risk of loss from price fluctuations by utilizing the machinery of futures trading. This is accomplished by hedging. Hedging, in general terms, is the offsetting of one transaction in the real commodity, or its products, by another transaction in the futures market, so that protection against loss from price changes is secured on commitments made at current market prices, and at the same time any speculative profits that might have been secured by a price change in the opposite direction are foregone.

The feasibility of insuring against loss by means of hedging is dependent upon the spread between the spot and futures prices remaining constant. Normally, futures prices for a specified month range above spot prices in earlier months, by the amount of the carrying charges to the month—that is, interest, insurance, and storage. As the delivery month approaches, this spread, of course, narrows until it is practically nonexistent at the time of maturity of futures contracts for that month. The maintenance of a constant spread between futures and cash prices means that whenever the price of cash grain increases or decreases, the price of futures contracts increases or decreases at the same time by a like amount. The possibility of buying cash grain, storing it, and delivering it on a futures contract normally prevents the price of futures from exceeding the cash price by more than the amount of the carrying charges.[1] The feasibility of hedging also

[1] At various times there is a premium on cash grain—that is, cash prices range higher than futures prices. This was the situation for many months following the resumption of futures trading on the Chicago Board of Trade after the Great War. So long as the spread remains constant, however, it makes no difference for hedging purposes whether cash prices are above or below futures prices. One reason occasionally given for the premium on cash grain is that it is an actual premium for quality and represents the superiority of the available supply of cash grain over contract grades.

is dependent on having a wide and continuous market for futures. The buyer or seller of a futures contract for hedging purposes always must be assured of having someone ready at all times to take the other side of the transaction.

The Canastota Flour Milling Company, on January 2 of a recent year, accepted orders for 1,000 barrels of flour for delivery in April and May at a price based on the price of wheat January 2. For this amount of flour approximately 4,500 bushels of wheat were required, which the company intended to purchase at country points and primary markets as it found convenient. On January 2 the price of cash wheat was $1.19½ a bushel, and May futures opened at $1.22½ on the Chicago Board of Trade.

In the *New York Times,* December 5, 1920, Senator Arthur Capper of Kansas was quoted as follows:

> The Chicago Board of Trade, as now conducted, is the world's greatest gambling institution. More wheat was sold in Chicago in the month of October than was raised in the entire United States this year. This year's corn crop was sold fourteen times in Chicago before a bushel of corn reached the market. Only about 1% of the trading done in futures is a bona fide transaction for actual delivery. There is not the slightest doubt that the gigantic raid made by the "bears" on the Board of Trade was the chief cause of the recent disastrous slump in the price of farm products.
>
> Because a lot of market gamblers find it convenient to bet on the daily quotations, the farmer who has been forced to sell his hogs and cattle at a loss, while meat still sells at war prices, is again made the "goat." The farmer already has lost more than a billion dollars by the "bear" raid. Brokers and commission houses have cleaned up over $40,000,000 in margins and commissions alone. The "lambs" who play the market have lost more than $100,000,000 in the last 90 days in speculating in cotton and wheat. Every city and town in the United States has its victims.
>
> It simply is a grain-gambler conspiracy to milk the people and the farmers out of hundreds of millions of dollars, and its success depends solely on how long the gamblers can prolong the raid and manipulate the market.
>
> Speculative trading on the exchange abrogates the normal relationship between supply and demand. The speculators, both in wheat and cotton, know when the farmers must sell and they take advantage of it to rob them annually of their just and hard-earned dues by running down prices before the market gets the crops and then running them up on the consumer. These two great world staples are made the footballs of the speculator, and the whole country is victimized.

Wheat prices varied considerably from month to month, as shown by figures in Exhibit 1.

EXHIBIT 1

PRICES OF NO. 2 RED WINTER WHEAT, CASH, CHICAGO, MONTHLY, 1920-1926*

(Average of one price weekly in dollars per bushel.)

Month	1920	1921	1922	1923	1924	1925	1926
January	2.64	1.96	1.20	1.25	1.13	1.98	1.87
February	2.49	1.92	1.38	1.35	1.13	2.01	1.84
March	2.50	1.68	1.36	1.31	1.09	1 85	1.71
April	2.77	1.39	1.39	1.31	1.07	1.73	1.70
May	2.98	1.57	1.43	1.29	1.06	1.90	1.62
June	2.90	1.44	1.16	1.19	1.12	1.84	1.48
July	2.81	1.23	1.15	0.99	1.26	1.58	1.43
August	2.47	1.24	1.05	1.02	1.32	1.67	1.37
September	2.49	1.28	1.07	1.05	1.34	1.68	1.35
October	2.20	1.19	1.19	1.10	1.52	1.60	1.41
November	2.06	1.18	1.31	1.06	1.56	1.70	1.38
December	2.01	1.18	1.33	1.08	1.77	1.81	1.41
Average	2.52	1.44	1.25	1.17	1.28	1.78	1.54

**Standard Trade and Securities Service*, Standard Statistics Company, New York City, February Supplement, 1927, p. 91.

During the period from 1920 to 1926, the annual output of wheat flour in the United States was between 9,000,000 and 11,000,000 barrels. Typical changes in flour prices are shown in Exhibit 2.

EXHIBIT 2

PRICES, PER BARREL OF 196 POUNDS, WHEAT, STANDARD PATENTS, F.O.B. MINNEAPOLIS, MONTHLY, 1920-1926*

(Average of one price weekly)

Month	1920	1921	1922	1923	1924	1925	1926
January	14.44	9.63	7.00	6.63	6.16	9.69	9.41
February	13.54	9.18	7.70	6.70	6.28	9.85	9.14
March	13.17	8.73	7.81	6.63	6.30	9.03	8.80
April	14.28	7.95	8.15	6.96	6.35	8.33	8.75
May	15.03	8.75	8.06	6.60	6.64	8.87	8.49
June	14.16	9.01	7.63	6.26	6.88	8.53	8.65
July	13.67	8.90	7.79	6.04	7.63	8.65	8.79
August	12.24	8.12	7.01	6.06	7.54	8.84	7.95
September	12.59	8.32	6.35	6.25	7.44	8.31	7.73
October	11.21	7.43	6.44	6.20	8.01	8.26	7.94
November	9.30	7.17	6.68	6.04	8.16	8.54	7.74
December	8.94	6.88	6.78	6.10	8.90	9.25	7.63
Average	12.68	8.33	7.28	6.37	7.19	8.85	8.42

**Standard Trade and Securities Service*, Standard Statistics Company, New York City, February Supplement, 1927, p. 91.

1. For the purpose of protecting itself against loss on this order, what transactions should the Canastota Milling Company have entered into on the Chicago Board of Trade?

2. What advantages may a flour manufacturing company derive from the opportunity to "hedge"?

3. Aside from such laws as might serve to regulate the carrying out of grain contracts on the Chicago Board of Trade, would there be economic justification for a law (*a*) preventing trading in futures? (*b*) preventing trading in grain contracts by any persons except growers, manufacturers, and distributors of grain?

3. Devonshire Company

speculative purchases

In March, April, and May, 1924, the sugar buyer for the Devonshire Company purchased large quantities of refined sugar. The sharp decline in price immediately ensuing caused the company to incur a loss in its sugar department. In late 1924, the loss increased slightly, with the result that, early in 1925, officials of the company hesitated to continue speculative purchases of sugar.

The Devonshire Company had annual sales of about $2,500,000, of which from 25% to 35% were made under its own private brand. The company sold a general line of groceries, including flour and sugar. The company's 15 salesmen called upon the customers on an average of once in two weeks. Eastern sugar refining companies maintained branches in the city in which the Devonshire Company was located. These branches maintained sufficiently large stocks to provide immediate delivery.

The Devonshire Company always had permitted its buyers to speculate in the commodities which they purchased. In the opinion of the officials, it was the function of a wholesale grocer not only to purchase commodities with a view to selling them immediately for a merchandising profit but also to take advantage of opportunities to obtain a speculative profit. The duties of the company's buyers were not intended to consist chiefly in reordering stocks. On the other hand, each buyer was expected to use his judgment at all times in taking advantage of market conditions to make favorable purchases.

The officials of the Devonshire Company were of the opinion, furthermore, that only successful speculation would insure a

profit from the sale of some commodities. For example, the gross margin (the difference between purchase price and sales price) obtainable on sugar and flour was too small to cover the expenses properly allocated to the products. It was necessary, however, for the company to sell both commodities, because had the company discontinued their sale, the retail grocers would have purchased them from competitors and so would have come to buy other lines from competitors. Successful speculation, therefore, seemed to the firm's executives to provide the only opportunity for eliminating the losses incurred by the sale of those products.

The sugar buyer for the Devonshire Company had been in the wholesale grocery business most of his active business life. During the entire time, he had purchased the sugar for this company. He obtained information about price trends and market conditions daily from sugar brokers in New York. He always purchased large quantities of sugar whenever, in his opinion, there was likely to be an increase in its price. When sugar prices were declining or the future trend was uncertain, however, he purchased from hand to mouth. The company normally sold about one carload of sugar a week.

At the end of February, 1924, the first month of the company's fiscal year, the sugar department showed a profit of $171. The wholesale price of raw 96 degree centrifugal sugar in New York had advanced from 6.7 cents a pound in January, to 7.2 cents a pound in February. The sugar buyer was convinced that the price of sugar would continue to increase. He purchased, consequently, unusually large quantities of sugar during March and April, with the result that his inventory increased from $3,774 on March 1 to $15,877 on May 1. The sharp decline in sugar prices following February, 1924, then caused losses on inventory. By July 1, the department had incurred an operating loss of $3,467.[1] The operating statistics of the sugar department of the Devonshire Company for the year 1924 were as recorded in Exhibit 1.

[1] Wholesale price per pound, raw 96 degree centrifugal sugar, in New York, *Survey of Current Business,* February, 1925, p. 104.

January, 1924	$0.067	May	$0.056	September	$0.060
February	.072	June	.051	October	.060
March	.069	July	.051	November	.058
April	.064	August	.054	December	.053

EXHIBIT 1

OPERATING STATISTICS OF SUGAR DEPARTMENT
RESULTS OF SPECULATIVE PURCHASING POLICY FOLLOWED BY DEVONSHIRE COMPANY DURING 1924

MONTHLY CUMULATIVE LOSS INCURRED IN SUGAR DEPARTMENT		INVENTORIES AT END OF MONTH, SUGAR DEPARTMENT	
February	$ 171*	February	$ 3,774
March	201	March	9,363
April	637	April	15,877
May	1,309	May	13,356
June	3,467	June	2,458
July	3,352	July	2,691
August	1,852	August	2,648
September	2,491	September	4,869
October	1,825	October	2,947
November	2,822	November	5,001
December	2,982	December	5,843
January	3,024	January	2,769

Net sales	$143,658
Purchases at cost	136,412
Cost of sales	137,417
Gross margin	6,241
Total expense	9,865
Percentage of total expense to net sales	6.86%
Percentage of gross margin to net sales	4.34
Percentage of loss to net sales	2.52
Average monthly inventory at cost	$ 5,958
Stock-turn, 1924	23.1%

* Profit.

Although the company's salesmen were paid as large a commission for selling sugar as for selling the other products, the company allocated a smaller proportion of other expenses to the sugar department than prevailed in the company as a whole. Hence, total expenses for the sugar department, 6.86% of net sales of sugar, were only about one-half as large as the figure of total expenses for the company as a whole.

The stock-turn in the sugar department for 1924, as shown by Exhibit 1, was 23.1 times. If the company had had inventories in March, April, and May equal to the average inventories in the other 9 months, its stock-turn would have been 37.4 times. If the buyer had purchased from hand to mouth throughout the year, having one car of sugar delivered on the company's siding each week, he would have obtained a stock-turn of about 52 times.

Before reaching a decision on the question of purchasing from hand to mouth and obtaining the stock-turn of about 52, the

vice-president of the Devonshire Company made a careful study of sugar prices in 1924. From this study, he ascertained that the gross margin to be obtained from purchasing once a week in carload lots would have fluctuated between 15 and 20 points; that is, sugar which was purchased for $6 per 100 pounds could have been sold ordinarily for from $6.15 to $6.20 per 100 pounds. In other words, at a time when sugar was being sold at about $6.18 per 100 pounds by wholesalers within the competitive market district of the Devonshire Company, the cost to the wholesalers would be approximately $6 per 100 pounds. At no time would the average gross margin currently obtainable, under competitive market conditions, exceed 3% of the net selling price to retailers. The only way, therefore, in which the company could obtain a greater gross margin would be by having purchased previously at lower prices in anticipation of a rise.

In upholding the general policy of the company with respect to speculation, the vice-president pointed out the results obtained in the flour department by speculation in 1924. In this department, the gross margin had equaled 12%, total expenses 9.64%, and net profit 2.36%. It was the opinion of the vice-president that the maximum gross margin which could have been obtained from a rapid stock-turn in the flour department would not have exceeded 9% and probably would have been nearer 8%. Thus, the flour department had obtained a minimum additional gross margin of 3% as a result of its speculation. He pointed out, further, that the company had purchased large quantities of wheat and grain products in the fall and early winter of 1924. The ensuing rise in the grain markets had enabled the company to obtain speculative profits of about 50 cents a case on many articles.

In one instance, however, in early 1925, a salesman representing a canned milk manufacturer had informed the buyer in the grocery department that a rise of 50 cents a case could be expected in the near future and that the company should purchase heavily in anticipation of this rise. The buyer had studied the conditions and decided that the salesman's advice was sound. The Devonshire Company had on hand at the time 61 cases of milk. The average monthly sales during 1924 had been 34 cases. The buyer decided to purchase 85 additional cases, increasing the total stock to 146 cases, or nearly 5 months' supply.

The price of the milk did not increase as had been expected, with the result that the company would obtain a stock-turn of only 2 or 3 times on this brand of canned milk in the year 1925. The canned milk had cost the company $8.05 a case.

From the fact that the gross margin for the sugar department was 4.3% in 1924, the vice-president decided that speculation had netted the company 1.3% more gross margin than otherwise would have been obtained from hand to mouth purchases, with the rapid stock-turn of 52 times. The company had obtained this additional gross margin in spite of the fact that the sugar department had incurred a loss of about $3,600. Nearly 96% of this loss resulted from purchases made in the three months of March, April, and May; if the sugar buyer had not made this single mistake in purchasing, the department would have shown a much higher gross margin for the year. The vice-president stated, however, that the soundness of a speculative policy should not be judged by the results which would have been obtained had the company not made a specific serious mistake. He stated that the company should expect mistakes to be made when it followed a speculative policy; therefore, the results of the year as a whole should be the basis for judgment. He was satisfied that the year 1924 represented an average year as regarded the company's success in sugar speculation.

Should the Devonshire Company have continued to speculate in sugar?

4. Atlantic Fisheries Company

INSURANCE OF FISHING FLEET

In 1925 the Atlantic Fisheries Company, which manufactured fish products, was operating through a subsidiary a fleet of 15 fishing vessels from which it obtained about 20% of its requirements for fish. For many years the company had insured the vessels against partial and total loss with an insurance company. In 1925, however, the treasurer of the Atlantic Fisheries Company recommended that the company, instead of paying premiums to an insurance company, set aside a reserve each year from which to meet losses of its vessels.

Each fishing vessel was operated under an agreement termed a lay, which provided for the division of the profits of a voyage

among the captain, the crew, and the company. A typical lay provided that the company should receive one-fourth of the profits, the captain one-fourth, and the crew one-half, each member of the crew having one share in the half interest, except the engineer and the cook, who would have two or three shares each. Each member of the crew was charged with his share of the supplies for the voyage; the company provided the fuel oil for the engines. The captain of the vessel decided where to fish and where to sell the catch. The company did not insure the lives of the members of the crew, since they acted as partners rather than as employees.

During the World War and the period immediately following, the company had operated approximately 90 vessels. In 1920, 1921, and 1922, however, the company had disposed of many of its vessels when the sales of its fish products had declined. Because the number and type of the company's vessels and its methods of accounting for losses were different prior to 1921, the treasurer did not believe that the company should consider the data for that time in deciding upon a method of protecting its vessels against losses.

In 1925 the company owned 17 schooners and had a half interest in another. Three of these the company used as cargo ships to collect fish purchased in ports in Maine and Canada. The other 15 operated as fishing vessels.

The ages of these 18 schooners varied from 7 to 22 years, with an average age of 16 years. The life of a fishing vessel was estimated by the company at about 20 years, but many well-built fishing vessels actually were used considerably longer.

EXHIBIT 1

AGES OF VESSELS OPERATED BY ATLANTIC FISHERIES COMPANY IN 1925

Number of Vessels	Date Built	Age in 1925
3	1903	22
3	1904	21
3	1905	20
1	1908	17
2	1910	15
1	1913	12
1	1915	10
3	1917	8
1	1918	7

EXHIBIT 2

RATE OF INSURANCE, PREMIUMS PAID, AND LOSSES INCURRED BY ATLANTIC FISHERIES COMPANY ON FISHING VESSELS, JUNE 3, 1921, TO JUNE 3, 1925

Year	Rate of Insurance	Insurance Premiums Paid	Total Losses	Partial Losses	Sum of Total and Partial Losses
1921—22	5%	$27,960.00	$ 6,000	$ 8,263.05	$ 14,263.05
1922—23	5	21,052.53	20,000	7,646.19	27,646.19
1923—24	5	21,811.71	33,500	7,155.21	40,655.21
1924—25	7	22,737.89	34,000	1,844.78	35,844.78
		$93,562.13	$93,500	$24,909.23	$118,409.23
Four-Year Average		23,390.53	23,375	6,227.31	29,602.31

In June, 1924, the Atlantic Fisheries Company had had 20 vessels, valued at about $325,000. Until that time, the insurance rate had been 5%. Because the company had suffered a total loss on two vessels in the preceding year, the insurance company had increased the premium rate to 7% in June, 1924, so that the Atlantic Fisheries Company had paid about $23,000 for protection during the year ending June, 1925. The company had lost two additional vessels during that year, for which it had collected $34,000. In addition, it had collected about $1,800 for partial losses on other vessels, making a total for the year of about $35,800. Two of the boats lost had run aground and had been broken up by heavy seas before the insurance company could send out tugs to save them. The other two had been sunk by collisions in foggy weather. One of these had been struck without warning by a big coasting schooner. It was the experience of the company, however, that such accidents as this were infrequent.

The company valued the 18 vessels which it had in June, 1925, at about $250,000; it had reduced the valuation of the ships because the insurance company had raised the premium rate to 9%. At that rate, the premiums for the year ending June, 1926, would amount to $22,500.

The treasurer of the Atlantic Fisheries Company was opposed to paying this increased rate, since he considered it excessive, in spite of the extraordinary losses which the company had suffered and for which it had collected. He contended that since the company's losses in the two years prior to June, 1925, had been unusually large, it was reasonable to suppose that the losses

in the next year or two would be small. It appeared to him to be an opportune time for the company to establish a fund of its own for the protection of its vessels.

The treasurer proposed, therefore, that the company set aside a reserve fund of $20,000 a year as insurance against loss of its vessels. If the company lost no vessels during the first year, and, if partial losses amounted to only $6,200, which was approximately the average for the four preceding years, the company would have a fund of $33,800 at the beginning of the second year, a sum more than sufficient to take care of the total loss of one vessel. If the company avoided a loss of any vessel during the second year, the fund would increase to $47,600 at the beginning of the third year, provided the company again suffered a partial loss of $6,200. The treasurer believed that, if a fund of this amount once were attained, the yearly contribution of $20,000 would be more than sufficient to meet yearly losses. The reserve fund would be built up until finally the company could reduce or discontinue the amount paid in each year.

The treasurer pointed out that each of the company's 18 vessels was a separate risk. That is, since the vessels ordinarily operated independently of each other, the company was unlikely to lose more than one in the same collision or storm. In other words, the company's position corresponded to that of a chain-store company whose properties were widely scattered rather than of a unit store all of whose properties were concentrated in one place and subject to the same risks.

The company had paid preferred dividends regularly since reorganization in August, 1923, but had paid no common dividends, although earnings during the year ending March 28, 1925, had amounted almost to $14 a share of no-par common stock.

ATLANTIC FISHERIES COMPANY, INCOME STATEMENT, YEAR ENDING MARCH 28, 1925

Net sales	$2,099,296
Total manufacturing cost of sales	1,603,826
Trading profit	$ 495,470
Expense	350,051
Profit	$ 145,419

The manager of the subsidiary company opposed the treasurer's plan for protecting the vessels. The manager thought it was

unwise to let the boats go to sea not fully insured by an insurance company. Until a large reserve fund had been built up, unusual losses in any year would have to be charged against operations for that year. These losses might amount to $40,000 or $50,000. The manager contended that organized insurance companies, by spreading their risks over large numbers of vessels, were able to offer policies at premiums which in the long run were certain to be lower than the costs of self-insurance by the Atlantic Fisheries Company. Insurance of vessels, he believed, called for a high degree of specialized ability and keenness of observation, in which long experience was of great importance. He argued, therefore, that the risks of ship losses should continue to be guarded against by taking out marine insurance policies with well-established insurance corporations.

Should the Atlantic Fisheries Company have continued to insure its vessels with an insurance company or should it have set aside a reserve to meet shipping losses?

5. Beecher Saw Company

PAYMENT OF EXECUTIVES

In 1924 the general executives of the Beecher Saw Company discussed the desirability of revising their policy regarding the sale of company stock to selected managerial employees.

The Beecher Saw Company manufactured saws, machine knives, and files. It owned two plants on the Atlantic seaboard, one in the Middle West, and one in Canada. The company's organization included approximately 2,000 persons. Sales branches were located in most large cities of the United States, and branch warehouses had been established at several important points. The company advertised its products nationally.

The Beecher Saw Company was one of three strongly competing manufacturers of high-grade saws in the United States. All these companies had been in existence for many years. The Beecher Saw Company had been founded by Daniel Beecher prior to the Civil War. From 1900 to 1924 the company had succeeded in increasing gradually its proportion of the total sales of high-grade saws in the United States. Particularly during the last years of this period, competition in the industry had been

active. In those years, the company's sales had ranged from $8,000,000 to $12,000,000 annually. There were pronounced seasonal and cyclical variations in sales volume.

No-par common stock and a small issue of bonds constituted the company's securities. The bonded debt was less than $1,000,000. In 1924, 20% of the stock was held by 65 individuals who either were or had been active in the management of the company. The remaining 80% was held by four chief executives who were members of the Beecher family. That family always had retained control of the company.

As managers, the chief owners of the business had reinvested most of the company's net earnings in the enterprise. Annual dividends on the company's stock had not averaged more than 4½% on the estimated prices of the shares. The company did not furnish its minority stockholders with figures of net earnings except on demand. One competitor of the Beecher Saw Company also was a closely owned corporation. So far as the Beecher Saw Company knew, that competitor had not published a financial statement or borrowed funds for many years.

The chief stockholders, for some years prior to 1924, occasionally had offered to sell stock to selected officials in the company's employ, thinking that, by virtue of such stock ownership, those officials would exercise greater initiative and energy in the company's affairs. The men to whom offerings were made were chosen because they were judged to be exceptionally able. Almost without exception those men had been receiving fixed annual salaries of more than $5,000 when they first were offered stock. A few managerial employees to whom the stock was offered had refused to purchase it because of the low dividend rate and the fact that the stock was not listed on any exchange. On the other hand, there were at all times executives in the organization who wished to buy company stock but to whom the four large owners did not wish to sell.

A few salaried employees of the Beecher Saw Company had invested their surplus earnings in other enterprises. Subsequently they had lost some of their interest in the company and had not devoted their best efforts to its affairs. The owners of the company did not object to the purchase of securities of other companies by executives who were not permitted to buy Beecher stock. They did object, however, to those executives' taking an

interest in outside investments to the detriment of their usual duties.

No executive was allowed to purchase Beecher stock on an installment basis. The chief stockholders, however, had assisted certain managerial employees to borrow from local banks funds with which to purchase Beecher stock. The assistance consisted in furnishing references as to the characters of the borrowers and in explaining their positions with the Beecher Saw Company.

At first, in order that the stock issued to officials should not pass into the hands of persons inactive in the business, a verbal agreement was made that the purchaser would resell to the chief owners upon his retirement or resignation. Later, purchase options were executed, under which the chief owners had the first opportunity to buy at a stipulated price the stock of an executive upon his resignation, superannuation, or death.

The wage earners in the company's employ were paid on an hourly basis. Foremen and a majority of office employees were paid on a monthly basis. The wage rates paid by the company were at least as high as the market rates in the vicinity of the respective plants. In regard to wages, hours, and working conditions, the company endeavored to have its plants known as among the best in the several communities in which they were located. Moreover, the company endeavored to maintain regularity of work in all its plants in spite of seasonal and cyclical fluctuations. Each plant usually had a waiting list of persons seeking employment.

The company paid its branch sales managers, heads of important departments, and other managerial employees of similar standing relatively small salaries. In addition to their salaries, however, it paid them shares in the profits of their own departments or branches, if the net earnings of those departments or branches could be segregated; or, where segregation of profits was impossible, it paid them shares in the profits of the company as a whole.[1]

[1] "Everywhere on the Continent the executives of corporations receive, not fixed salaries, but sums which vary with the earnings of the business which they manage. The *tantième* is universal. The *Direktor* (that is, the managing executive head) of a German stock company receives a fixed salary, and in addition a stated percentage (*tantième*) of the net earnings. The most common figure is 5%, and the most common basis of computation is that of the net earnings after meeting all operating expenses (including interest on borrowed capital) and paying a fixed moderate dividend, equivalent to interest, on capital. If the concern is a very large one, not only the chief executives, but others having positions of

Junior executives who in any year did meritorious work were given cash bonuses at the discretion of the management. These bonuses ranged from $1,000 to $5,000 each. Employees in this class included heads of minor departments, assistant managers, and chiefs of office divisions.

The only bonuses paid to wage earners were those given for constructive suggestions. The total annual expenditures for that purpose seldom exceeded $5,000. Individual awards ranged from $50 to $200, the particular award depending upon the merits of the particular suggestion.

Was the company's payment plan adapted to securing the best efforts of its executives? Did they receive profits or wages?

6. Kittell & Company

INSOLVENCY AND REORGANIZATION

In February, 1921, Kittell & Company, an investment banking firm, retailed $1,500,000 of 8% 10-year bonds of the Wadsworth Steamship Company. This was the first security of the Wadsworth Steamship Company that Kittell & Company distributed. The steamship company was unable to complete the payment of $150,000 in March, 1923, when the first installment of principal became due. As a result, Kittell & Company had to select a method of protecting its customers.

According to an investigation previously made by Kittell & Company, the Wadsworth Steamship Company had been incor-

high responsibility, have a part of the *tantième;* that is, to compare with corresponding American positions, not the president only, but the vice-presidents also, share in the earnings. Among them these leading officials divide the *tantième;* which indeed might amount, for a great concern, to an inordinate sum if received by one only. In addition, it is common practice that the *Aufsichtsrat* (what we should call the Board of Directors) receives a *tantième,* often also 5%, which is divided among its members.

"The fixed salary of the executive (or of the executives, if more than one) is always moderate. It is supposed to be such as to enable a man to live decently according to the standard of the social stratum to which he presumably belongs. Naturally, it is larger for a great concern than for a small one; larger, too, where a special equipment or capacity is required. But it is deliberately kept at a modest figure. It is a sort of guaranteed minimum for the particular kind of work. Over and above comes the conditional *tantième.* This may amount to double the salary, even more. If the concern is highly profitable, the executive not merely earns a living, but 'makes money'." F. W. Taussig, "American Corporations and Their Executives: A Statistical Inquiry," *Quarterly Journal of Economics,* November, 1925.

porated in Maine. In 1912 the company was organized with $150,000 of common stock as its paid-in capital, to conduct a general inter-ocean shipping business. In that year the company began to operate with one steamer. Late in 1912 the company issued $150,000 of first mortgage 6% bonds which it sold at par. At that time the company sold an additional issue of $150,000 of common stock. The company obtained another steamer in 1913, and a third in 1914, when it issued $200,000 of common stock. From time to time, more bonds were sold under the terms of the indenture of 1912 until, in 1915, the total amount of this issue was $870,000. In 1915 and 1916 the Wadsworth Steamship Company sold a $500,000 issue of common stock, and secured three more ships, two in 1915 and one in 1916. Because of large earnings, the company called in and paid off all its bonds in 1916 and 1917. At the end of that time, the outstanding common stock totaled $1,000,000. In 1917 the company also added two more ships to its fixed assets.

As a result of the World War, the company's earnings increased at an unusually rapid rate between 1916 and 1920. In May, 1920, the company, therefore, in order to capitalize its large earnings, increased the common stock outstanding to $3,000,000 by paying a 200% stock dividend to the holders of common stock.

EXHIBIT 1

NUMBER OF SHIPS IN SERVICE, TOTAL DEAD WEIGHT IN TONS, GROSS AND NET EARNINGS OF WADSWORTH STEAMSHIP COMPANY FROM 1913 THROUGH 1920*

Year	Number of Ships in Service	Total Dead Weight in Tons	Gross Earnings†	Net Earnings‡
1913	1	5,000	$ 120,000	$ 57,289
1914	2	10,100	219,481	61,677
1915	5	31,700	509,372	264,195
1916	6	41,200	1,224,655	842,986
1917	8	53,800	3,415,328	994,488
1918	8	53,800	3,720,418	2,671,481
1919	8	53,800	4,675,359	2,812,920
1920	8	53,800	4,784,647	2,127,722
Total.....	.....	.....	$18,669,260	$9,832,758

*This table does not include the earnings on the company's 3,100-ton dead-weight capacity steel freighter, which Kittell & Company did not include in its investigation.

†Total receipts from all sources.

‡After amounts for depreciation and before Federal taxes were deducted.

The number of ships in service, the total dead weight in tons, and the earnings from the time of the incorporation of the company through 1920 had been as presented in Exhibit 1.

The Wadsworth Steamship Company's number of ships in service increased from one in 1912 to eight in 1920, with a total dead-weight capacity of 53,800 tons. During that period the company's gross earnings from all sources were $18,669,260, and its net earnings after allowances for depreciation had been made, but before Federal taxes had been deducted, were $9,832,758.

Dividends were paid on March 31, June 30, September 30, and December 31. The par value of the stock had been changed from $100 to $10 in December, 1918, and dividend payments on that basis had been commenced on December 31, 1918. From 1912 through 1920 the company had paid total cash dividends to the amount of $3,267,500 on its common stock at the rates shown in Exhibit 2.

EXHIBIT 2

REGULAR, EXTRA, AND TOTAL RATES, EXPRESSED AS PERCENTAGES OF PAR VALUE OF COMMON STOCK, OF CASH DIVIDENDS PAID BY WADSWORTH STEAMSHIP COMPANY FROM 1912 THROUGH 1920

Year	Regular Dividend Rates	Extra Dividend Rates	Total Dividend Rates
1912	10.00%	.....	10.00%
1913	10	.....	10
1914	10	.....	10
1915	10	.....	10
1916	10	10.00%	20
1917	10	47.50	57.50
1918	26.75	52.50	79.25
1919	80	.....	80
1920	42.50*	.....	42.50*
Total.....	209.25%	110.00%	319.25%

*This figure includes 20% paid in March on $1,000,000 of capital stock, and 7.5% paid in June, September, and December, respectively, on $3,000,000 of capital stock.

The directors, who were among the chief stockholders, had received large shares of cash dividends, which totaled $3,267,500. The company had spent $3,500,000 of net earnings on constructing ships. Excess profits taxes had been $2,300,000.

The company's steamships were of the highest class, 100 AI in Lloyd's Register of Shipping. They were modern, oil-burning,

steel freighters. The ships were well maintained; the expenditures made for maintenance and repairs, from 1916 through 1920, were as presented in Exhibit 3.

EXHIBIT 3

EXPENDITURES OF THE WADSWORTH STEAMSHIP COMPANY FOR MAINTENANCE AND REPAIRS FROM 1916 THROUGH 1920

Year	Amounts
1916	$ 291,042
1917	142,203
1918	180,533
1919	471,168
1920	255,941
Total	$1,340,887

From 1916 through 1920 the Wadsworth Steamship Company spent $1,340,887 for maintenance and repairs. In conjunction with this maintenance program, the policy of the Wadsworth Steamship Company was to set aside 5% per year of the original cost of each ship for depreciation. According to shipping experts, 20 years was a conservative estimate of the period of service for the company's type of freighters. Prospect of continued large earnings, and the passage of the Merchant Marine Act of 1920 by the United States Government had stimulated the Wadsworth Steamship Company to continue its construction program. The act provided that a steamship company could deduct from excess profits taxes which it would have had to pay at the end of any current year an amount equal to one-third of the company's expenditures for construction during that year.

In 1920, when the company had begun to build its tenth ship, it planned to furnish the funds out of earnings, but its earnings declined in the last half of that year, so that the company entered 1921 with sufficient funds to continue its shipping business and to meet all current operating expenses, but not with enough to complete the ship under construction. The Wadsworth Steamship Company, therefore, decided to issue $1,500,000 of mortgage bonds secured by eight of its freighters in service, and by the ship under construction. This bond issue was offered to Kittell & Company.

The years of purchase and capacities of the ships which were to be used as security for the bond issue were those shown in Exhibit 4.

EXHIBIT 4

YEAR OF PURCHASE, NUMBER, AND DEAD-WEIGHT CAPACITY IN TONS OF SHIPS TO BE MORTGAGED BY THE WADSWORTH STEAMSHIP COMPANY THROUGH THE ISSUE OF $1,500,000 OF BONDS

Year of Purchase	Number of Ships*	Dead-Weight Capacity in Tons
1912	1	5,000
1913	1	5,100
1914	1	7,200
1915	2	14,400
1916	1	9,500
1917	1	9,500
1920	1	9,500
1921	1	9,500
Total	9	69,700

* This company also owned a 3,100-ton dead-weight capacity steel freighter which was not to be mortgaged. The ship for whose completion the issue of bonds was to be sold also was to be mortgaged, and was listed as the 1921 purchase.

The president and other officers of the Wadsworth Steamship Company were experienced and successful shipping men. They had established the company firmly; the president was personally acquainted with several important shippers at many of the principal ports. The cargoes of the larger ships consisted mainly of miscellaneous merchandise; those of the smaller ships, chiefly of coal.

Kittell & Company accepted the Wadsworth Steamship Company's offer. In February, 1921, the investment banking firm retailed the $1,500,000 of first mortgage 8% 10-year serial gold bonds of the Wadsworth Steamship Company. Kittell & Company expected the bondholders to look primarily to the fixed assets for their security. The estimated average value of the ships was $100 per dead-weight ton, and the mortgage was for approximately $21 per dead-weight ton. The bonds were callable on any interest date, March 1, or September 1, on a 30 days' notice at 105 and accrued interest. They were coupon bonds in denominations of $1,000 and $500, registerable either as to principal or as to principal and interest. The steamship company paid all Federal income taxes which it lawfully could pay at the source up to 2%. The mortgage which secured the bonds provided that $150,000 of principal should be retired on March 1 of each year, beginning March 1, 1923.

The mortgage agreement provided that the entire proceeds

from the sale of the bonds be used to complete the ninth mortgaged ship then in process of construction to cost about $1,750,000; that all the ships be maintained to meet the requirements for the highest classification in Lloyd's Register of Shipping; and that any lien or charge be prevented from having precedence over the bonds by the company's prompt payment of all claims legally prior to or on a parity with the bonds. The mortgage agreement also stated that the company might sell, free of lien of the mortgage, any mortgaged vessel, provided that a surveyor, approved by the bondholders, found the price to be the fair value of the vessel, and that the company deposited the proceeds with the trustee, to be applied towards the purchase or redemption of the bonds; and that while any of the bonds were outstanding, the company would maintain full marine insurance upon all the mortgaged vessels to the extent of 125% par value of the bonds outstanding, and protection and indemnity insurance in proper form to protect the bondholders' security.

Because of the excess number of government ships and the general decline in business, the depression in shipping, which had begun in 1920, continued throughout 1921. Because of low earnings, the company made only sufficient repairs to prevent default under the mortgage agreement. At the same time, the company was attempting to build up coastwise trade. Competition, however, precipitated a rate war and forced the company to carry freight below cost.

Kittell & Company always took the responsibility for closely following the finances of the companies whose securities it had sold. It usually required monthly financial statements from industrial and public utility companies. On account of irregularity in time of receipts, however, it was impossible for Kittell & Company to require such reports from the Wadsworth Steamship Company; the two firms had an understanding that the investment banking firm could call for a report at any time describing the location and cargoes of the ships. Kittell & Company asked for reports frequently enough to know where the ships were. The coal strike in the spring of 1922 made it necessary for several of the small ships to lie idle.

During 1922 Kittell & Company concluded that the steamship company's position was becoming insecure. The financial statements for 1922 confirmed the conclusion drawn from the reports

on the ships. During that year the Wadsworth Steamship Company had failed to earn its bond interest plus the amount required for the retirement of principal. Although the Wadsworth Steamship Company was concentrating its efforts on trade between the Atlantic and Pacific coasts of the United States and between Atlantic ports rather than on world trade as the company formerly had done, nevertheless, by February, 1923, it had insufficient working capital to continue operations. In order to obtain the cash to meet the maturity of $150,000 principal of the bonds in March, 1923, the company attempted in February to sell 8% cumulative preferred stock to the stockholders. That attempt failed because the stockholders, who had received $3,267,500 cash dividends since 1912 on an original investment of $1,000,000 did not wish to risk these profits in an industry which had become unprofitable. Since the assets of the company, if sold, probably would not be more than sufficient to satisfy the bondholders, the stockholders' existing equity did not warrant the risking of more capital in an attempt to save their original investment.

On March 1, 1923, the funds available were sufficient to retire only $75,000 of the principal of the bonds and to pay the interest. Kittell & Company acquired the other $75,000 of the bonds and held them to prevent default and thus to protect the firm's reputation.

The financial position of the Wadsworth Steamship Company on May 1, 1923, was as shown in the balance sheet in Exhibit 5.

In May, 1923, the Wadsworth Steamship Company tried to sell 8%, 10-year, second mortgage notes to the stockholders. This attempt was unsuccessful for the same reasons that the attempt to sell preferred stock had failed.

In August, 1923, the executives of Kittell & Company formed a bondholders' protective committee. It drew up a deposit agreement, and the bondholders deposited all but 29 bonds, which represented approximately $25,000, with the committee.

The bondholders' committee believed that the stockholders' experience in trying to raise funds indicated that the committee could not effect a reorganization through the stockholders. The bondholders, furthermore, did not wish to invest additional capital in an industry which probably would not be profitable for several years because of the general excess of shipping capacity. In addition, it was not the policy of Kittell & Company to take

over and operate companies in financial difficulties. The firm looked upon its function as that of creating a wide and stable market for the securities of those companies from which it decided to purchase issues. The executives believed that the company could accomplish its purpose only by giving the interests of its customers every possible consideration.

Kittell & Company realized that it would be necessary to dispose of the mortgaged ships at a substantial loss, if the company

EXHIBIT 5

WADSWORTH STEAMSHIP COMPANY
BALANCE SHEET MAY 1, 1923

ASSETS		
Current Assets		
Cash	$ 36,332	
Accounts Receivable	88,816	
Insurance Claims	101,140	
Total		$ 226,288
Other Assets		
Accrued Interest, etc.	$ 160,253	
Refund on Federal Taxes	412,032	
Deferred Charges	84,427	
Merchandise	5,499	
Powler Steamship Company Stock	300,000	
Powler Steamship Company Notes	300,000	
Interest Receivable	62,000	
Total		1,324,211
Fixed Assests		
Steamships	$6,121,190	
Less Depreciation	1,428,636	
Net		4,692,554
Total of All Assets		$6,243,053
LIABILITIES		
Current Liabilities		
Bonds Overdue	$ 75,000	
Notes Payable	250,180	
Accounts Payable	255,998	
Accruals, Wages, Commissions, and so on	76,706	
Total		$ 657,884
Other Liabilities		
Reserve for Federal Taxes	$ 365,219	
Bonds	1,350,000	
Capital Stock	3,000,000	
Surplus	869,950	
Total		5,585,169
Total of All Liabilities		$6,243,053

decided to sell them at that time, because of the large number of government ships on the market, and because of the depression of shipping. The executives believed, however, that these freighters were in better condition than the government's ships. The estimated value of the Wadsworth Steamship Company's vessels at the time the company had mortgaged them was $100 per dead-weight ton, and the mortgage had been at the rate of $21.52 per dead-weight ton. Kittell & Company received an offer for six of the ships, aggregating 45,700 dead-weight tons' capacity. This offer, if accepted, would provide for the payment of the bondholders in full. The executives decided, therefore, to foreclose upon the six ships and sell them rather than attempt a reorganization.

Kittell & Company presented the $75,000 of bonds which it had taken up in March, to the Wadsworth Steamship Company for payment. The steamship company refused payment. This act, under the terms of the mortgage, constituted default, and Kittell & Company started court proceedings immediately. On August 16, 1923, the bondholders' committee ordered the trustee for the bondholders to foreclose upon the six ships on the grounds of the Wadsworth Steamship Company's failure to pay $75,000 of principal of the bonds that had become due March 1, 1923, and failure to comply with the mortgage requirements pertaining to the insurance on the vessels. The Wadsworth Steamship Company did not meet the interest payment which became due September 1, 1923.

Kittell & Company's policy was to do everything possible to protect the firm's reputation. The executives expected that the bondholders' committee eventually would secure sufficient funds for the complete payment of the bondholders' claims. The firm, therefore, offered to pay any individual who was absolutely dependent upon interest payments for a livelihood the interest due from the Wadsworth Steamship Company. Each person who received such payments was to assign to the firm a portion of his deposit certificate equivalent to the amount of interest which he received.

Under the marine law, no one could seize vessels except while they were in port, so that the bondholders' committee immediately secured a court order and took steps to acquire the ships as soon as they arrived at convenient ports. The firm carried the process

through expeditiously, and the six vessels were in the custody of the bondholders' committee early in January, 1924.

In that month the bondholders received full payment. The itemized amounts which the holder of each $1,000 bond secured were as follows:

Principal	$1,000.00
Bond Interest Due September 1, 1923	40.00
Interest on $1,040 from September 1, 1923, to January 16, 1924	23.40
Total	$1,063.40

The holders of $25,000 of the bonds, who had not cooperated with the bondholders' protective committee, also received full payment. Although the expense connected with the settlement was more than the original profit on the sale of the bonds, Kittell & Company made no charge to the bondholders.

The Wadsworth Steamship Company continued in business, owing over $500,000 to banks and merchandise creditors. On the petition of a merchandise creditor to whom the company owed about $20,000, the court appointed, on March 3, 1924, a receiver to administer the company's affairs until the liquidation or reorganization of the company.

Kittell & Company was satisfied that it had protected its customers' interests and that it had discharged its responsibility to the stockholders of the Wadsworth Steamship Company by allowing them ample time to save their equity had they so desired. The firm had preserved its reputation, and it was in a position to create a wide market for the issues which it might purchase subsequently.

1. Should the bondholders and merchandise creditors of the Wadsworth Steamship Company have been entitled to receive the amounts due them before the stockholders could recover their investments?

2. So long as the company continued in business, should its officers have received the same salaries as during the company's prosperity?

XXVI

SUPPLY OF LABOR

Black, 897-906; Bye, 121-138, 420-435; Clay, 289-313; Edie, 388-416; Ely, 55-68, 423-438; Fairchild, II, 202-230, 299-337; 485-503; Gide, 85-90, 94-113, 572-574; Marshall, 193-219, 546-558, 681-693; Rufener, 356-386; Seager, 30-36, 244-261, 300-313; Seligman, 49-66, 301-303, 413-431; Taussig, II, 225-252; Turner, 399-448.

1. Roger Bacon Company

IMPROVING LABOR SUPPLY

The mills of the Roger Bacon Company, located at Allston, Alabama, manufactured sheetings, drills, and flannels, classified as grey goods. The mills, in 1921, employed 400 people. The company continuously found difficulty in obtaining operatives who would work regularly. Its laborers were not thrifty, foresighted, or ambitious. Employees were absent frequently, and the number of resignations was unusually large. The company had done welfare work with questionable success, and in 1921 the owners were debating whether to continue their efforts to improve the industrial qualities of the employees or to adopt a merely passive attitude, seeking laborers whenever necessary in the surrounding hills and countryside, keeping those who wished to stay, and regarding the expenses thus incurred as necessary and normal.

The town of Allston had been founded by the company in 1902. By 1921, approximately one-half of the town buildings had been erected on account of the mills, and the population had grown to 2,500 persons. There were two railroad lines, one a through line. The surrounding country was rough and little developed.

The mill operatives were recruited almost wholly from surrounding hills and farms. These people were descendants of white farmers who had owned no slaves and had not been able to compete with the wealthy, slave-owning planters in growing

cotton and corn. The poor farmers' children had had little chance for education. After the Civil War they were in competition with emancipated slaves with low standards of living. All through this period there was a migration of the more energetic and pioneering individuals from the South to Kentucky and the West and into the mountains of Georgia, the Carolinas, and Tennessee. Those who migrated to the hills were shut off from the developments of the last half of the nineteenth century.

These mountain people formed the labor supply for the Roger Bacon Company. They came from shanties on poor farms and from shacks in the mountains. The circumstances described had thrust them into a state of poverty and ignorance far below their native abilities.

Although they had little ambition, they were not degraded, but independent, proud, and sensitive. The older generation, as a class, was unable to read or write; the younger generation had received some education, a result of the state compulsory education laws.

When men from these mountain families came to the mills for employment, usually all the members of their families above the age of 14 or 16 entered the employment of the mill. Many of the older men were unable to adapt themselves to factory work. They quit mill employment and frequently remained at home, deriving their support from wives and children.

Agricultural life suited many of these people best. Every spring some of them returned to the farms to plant. If, at the end of six weeks their crops appeared to be thriving, they stayed on the farm, but otherwise they returned to the mill. After many years no remedy for this situation had been devised.

There was much shifting of the labor supply between the mills of the Roger Bacon Company and other textile manufacturing companies in scattered towns. Some of the workers drifted about in a casual way. They started without a destination from one town and settled temporarily when their money was spent.

Some lowland tenant farmers drifted to Allston from points as far as 200 miles away. Among southern mill owners a difference of opinion existed regarding the industrial qualities of the lowland tenant farmers as contrasted with those of the mountaineers. The lowland farmer was alleged by many to be less intelligent, sturdy, and industrious than the mountaineer. Few

of the lowland farmers went to the mills, for farming was easier in those regions. An unquestioned difference existed between the workers of more recent mill towns, such as Allston, and the employees in older mill towns, such as were found in the Carolinas and Georgia. In some of the older mill centers, three generations of workers had grown up about the mills, and the industrial qualities of the people in them were more satisfactory than the qualities of the laborers whom the Roger Bacon Company employed. In the vicinity of Allston were coal mines in which men could earn from $4 to $5 a day, considerably higher rates per day than those paid by the Roger Bacon Company. Although mining was open only to men, it drew some of the heads of families from Allston, and their families accompanied them. Employment in the mines was not steady in normal years, and men who left Allston for the mines frequently returned after their resources gave out during periods of idleness.

The Roger Bacon Company had built 125 houses, which accommodated nearly all its employees. There was also a small hotel used by male mill employees. The people living in the mill houses numbered 850. All the dwellings had electric lights, but only a portion had modern plumbing. The company's rental of 25 cents per room per week was less than half the average rental charged by owners of private houses in the town. The least satisfactory of the company's houses were far better than the dwellings and huts from which many of the older workers had come.

The Roger Bacon Company treated its laborers considerately, and had done the following welfare work: It had established a nursery for the children of mothers who worked in the mills, and employed a nurse to look after the general health of the workers. It had erected a grammar school at a cost of $20,000, the teaching and maintenance being taken over by the county. Courses in home economics were given to girls. Many of the employees previously had eaten only fried food, the "hog and hominy" diet of the South, and newcomers to Allston often were suffering from malnutrition on arrival. The company had established a playground, and it supported employee baseball teams and a band. It had remodeled a building into a motion picture theater and provided a projector. The employees supervised the operating of the theater. A textile club for boy workers in the mills had

been formed, and in 1920 a small library was started. At the end of the year, 125 library cards had been issued to mill employees.

In February, 1919, there was for the first time a prolonged labor shortage. The company hired a labor agent who went into the surrounding district and sent laborers from farms and mountains to the mills. That spring many employees left, but because of bad weather and a poor crop outlook, they returned several months later. Then there were enough laborers and the agent was dismissed. In the spring of 1921, some workers again left for the farms, but the mill's operations were curtailed for other reasons, and there was no labor shortage.

The company's employees did not work regularly, but took time off for trivial reasons. Often no substitutes could be found, and machinery was therefore idle. Approximately 20% of the employees could have been dismissed had those remaining worked regularly.

These unfavorable features of its labor supply, however, were more than offset by the low wages paid by the Roger Bacon Company as contrasted with those paid by its northern competitors. Twenty-five per cent of the final cost of cotton grey goods was labor cost. In 1921 the average annual wage in Alabama cotton mills was $568, whereas the average wage in Massachusetts and Rhode Island was $929.[1] Southern mills lawfully could require a worker to spend longer hours at his machines than could northern mills. The difference was approximately 7 hours a week. Many of the southern mills worked on a 2-shift basis; their machinery was run 110 hours a week.

The owners of the Roger Bacon Company believed that the lower wages paid southern labor were explainable, in part at least, by the newer industrial development of that region. According to the census of 1919, in Massachusetts and Rhode Island the capital investment in industrial plants was $372,000 per square mile, and the number of wage earners was 90 per square mile.[2] Comparable figures in the four principal southern textile manufacturing states, among them Alabama, were $10,000 and 2.4 wage earners. The one region was 35 times more "industrialized" than the other. In the South there were few locations where other great industries were bidding for cotton mill employees.

[1] *Census of Manufactures*, 1921, p. 201.

[2] *Ibid.*, calculated from figures on pages 1269-70-71.

Among those, however, was the Birmingham district in Alabama.

Along with the small industrial demand for southern labor was a condition of plentiful supply. Had this labor been willing and able to move outside the section, the situation would have tended to correct itself. Although the people moved about within the district, they lacked the resources and desire to venture into the North and West. This fact, furthermore, was evidence of a fixed standard of living, which, measured in terms of material goods, was confined to bare necessities. A further fact having its influence upon labor supply was the tendency to large families —six children were said to be the average number per family. The increase of white tenant farmers in Alabama from 1900 to 1920 was from 48,000[1] to 70,000[2]—a growth explainable almost entirely by native population increase.

The individual wage paid to southern mill workers was not an indication of family welfare, since several members of a family usually worked in the mills. A family consisting of a father, mother, and at least two children of working age could earn $250 a month. Notwithstanding this possibility, it was not a typical occurrence. The people did not work to create savings but only to satisfy immediate wants and occasionally an extravagance. The typical southern mill operative purchased less clothing than did the northern operative. Frequently, opportunity existed for vegetable growing and animal pasturage in or near mill villages.

Educational efforts were limited to children under 16. In the mill towns parents seemed opposed to the education of their children beyond the grammar grades. They thought it best that children then should go to work in the mills. The mills, however, had begun to restrict their employment of children.

Only a small percentage of the total number of children enrolled in public schools graduated from the high schools. The reasons assigned were incapacity, lack of ambition, lack of encouragement, and financial necessity—the latter was a rare reason. Probably, also, the teachers in some of the mill towns were poorly paid and not held in esteem.

The owners of the Roger Bacon Company realized that southern mills' welfare work was criticized as paternalistic. Most employees said that they would prefer to receive as wages the

[1] U. S. Census, 1900, Agriculture, Vol. 1, p. 4.

[2] U. S. Census, 1920, Vol. 6, Part 2, p. 480.

money spent on welfare work. Few prized the facilities furnished them under welfare programs. The mill managements conducted this work because they believed it essential to maintain the health and morale of the mill communities. Many of the employees had lived in isolated places; diets and standards of life on isolated farms were extremely unhealthful under the confining conditions of factory work in towns. Laborers drawn by the welfare facilities, however, worked regularly, and were likely to advance in their standards of living.

Many southern mills had more modern machinery and equipment than did northern mills. This was true of the Roger Bacon Company. The new equipment of southern mills, however, entailed heavy charges for interest and depreciation. Idleness of machinery caused by irregular attendance of employees thus was unusually costly.

In some ways the southern cotton mill workers were superior to those in the North. Southern mill workers were English-speaking almost without exception, and hence there were no language or racial barriers between them and their overseers such as existed in some northern textile centers. There was not the group jealousy and solidarity that often occasioned difficulty in northern mills. Moreover, southern workers were not organized in labor unions in nearly the degree that they were in New England. When at work the southern operative was satisfactory in ability and willingness, but his pace was said to be slower than that of the northern textile worker. To what extent climate was responsible for the slower pace of the southern worker was unsettled, but it was without doubt an active factor.

The company's executives realized that in attempting to improve labor conditions they were dealing with intangible forces, operating over long periods, and that any program adopted had possibilities of unforeseen complications in later years. Improved standards of living probably would be accompanied by demands for higher wages and perhaps bring about unrest of a sort quite different from that which characterized the population in 1921.

The company decided not to attempt to mold the industrial qualities of the people directly, for it did not wish to assume responsibility for the results. It decided to continue its modest program of welfare work, concentrating chiefly upon educational efforts. The specific fields of endeavor were domestic science,

personal hygiene, and character building. The executives expected increasing industrial development in the near-by districts, and believed that such growth would lead to greater wealth, more extensive road-building, better educational facilities, and gradual assumption by the state government of fuller industrial responsibilities. As Allston grew older, an increasing proportion of its residents would be native to the place and probably would have less tendency to migrate elsewhere.

1. What characteristics of factory work made it difficult for the older employees to adapt themselves to it?
2. Should this company have desired a rising standard of living in its locality?

2. Sharey Company

EMPLOYMENT OF WOMEN ON FACTORY TASKS

The Sharey Company was located in Pennsylvania, in one of the centers of the tanning industry in the United States. Near this city, which had a population of 20,000, were two other cities, one with a population of 100,000 and the other with a population of 45,000. The Sharey Company operated a large upper-leather tannery composed of 9 units. In July, 1924, these units employed approximately 2,600 workers, most of whom were semi-skilled. The products of the various units were diverse. The company never had had to shut down all the units at any one time. This fact, together with the short time required for employees to become proficient at most tannery operations, made possible, without great cost, the transfer of workers within the organization during periods when production of some of the products was curtailed.

In July, 1924, the general superintendent of the company contemplated adopting a policy of dilution which would effect the substitution of girls and women for men employed on certain finishing operations. He expected the company's production to increase so that the company could introduce women without discharging any men. Some men might be transferred from the finishing departments to other departments.

Most of the finishing operations were "machine operations," in which production was dependent largely upon the speed of

the machine and the operative's ability to feed the machine without lost motion. Proper feeding was important because the finish imparted had to be uniform on all parts of a skin. Operatives were required to exercise judgment in the finishing operations. Those operations were not automatic, and it was imperative that quality should not be sacrificed to speed.

Most of the tanneries in the locality were smaller than that of the Sharey Company. During the five-year period following 1914, these tanneries had introduced women into their finishing rooms. Labor had been in great demand at the time and the men displaced had had no difficulty in finding work elsewhere. Only a few men had been displaced in each tannery. The companies making the dilution had not suffered from unfavorable public comment.

In the period from 1914 to 1919 the Sharey Company also had introduced women into its finishing departments, but only to replace men who left to enter military service or for other reasons. At the close of the World War, the Sharey Company had reemployed a number of the men and had displaced most of the women. The executives had not thought that the employment of women had yielded any substantial saving. As the other tanneries had continued to employ women, however, officials of the Sharey Company decided that its experience had not been conclusive.

In July, 1924, the Sharey Company was employing 42 men and 6 women in the finishing departments. The average wage of the men employees in those departments was from $28 to $30 a week. The average wage of the women was from $18 to $20 a week. Most of the men in the finishing departments were English-speaking and had a standard of living higher than that of the foreign-born labor employed on the cleaning and tanning processes. Some of the men were married and owned homes; a number had been in the company's employ for many years.

The general superintendent believed that women would be able and willing to perform the finishing operations. He expected that their wages would be $15 a week while they were learning the work and from $18 to $20 a week thereafter. All the other tanneries in the district had been successful in making the transition from male to female labor in the finishing departments. Moreover, he believed that the Sharey Company was in

a favorable position to make the change without concerted opposition on the part of the employees. Finally, there was in the vicinity an adequate supply of women available for this work. At the time, the local tanning industry was running at 60% of its capacity, although some units of the Sharey Company were running at full capacity. Women temporarily out of work in other tanneries in Assibet and the two near-by cities could be employed.

The company expected that if it introduced women as proposed, even though it discharged no men, the men in the finishing departments would protest, regarding the step as a forerunner of their release. The company was not in a position to guarantee employment to any worker; hence these men would be concerned about their futures. It was difficult to find any work at the time, and almost impossible for men to find employment in the finishing departments of Assibet tanneries. It was probable that the men would make conditions uncomfortable for any women whom the company hired for the finishing departments. The men might have recourse to hazing and so cause a high rate of turnover among the women. Segregation of men and women to prevent such hazing was impossible. Moreover, the hazing might take place outside the plant. There was also the possibility that the foremen would sympathize with the men and permit hazing. Such a situation would tend to break down the morale in all the departments concerned. The company had been endeavoring to establish cordial relations with its employees. It had established an industrial relations department and was maintaining sick-benefit and pension funds.

The company also had to take into consideration the effect which the adoption of the proposed policy would have upon the community. Action by the Sharey Company, a large employer, naturally had more important consequences and aroused more comment than action by a small firm. The men employed in the finishing departments were useful, reliable members of the community. Since the community was given over in the main to the tanning industry, any men displaced by the Sharey Company in its finishing departments would have either to take up some other type of work in that company or in other tanneries or to move elsewhere.

Because of somewhat inactive business conditions in July, 1924, and the Sharey Company's position as a large employer,

the company's executives deemed it best not to discharge men in order to introduce women into the finishing departments, but to effect the substitution by transferring men to other work and by hiring women rather than men when additional workers were needed for the departments.

Accordingly, the company employed 37 women for the finishing departments between July and November, 1924. No men were discharged, but 20 were transferred to other departments. When women were introduced into any department, several were brought in at once and placed at adjacent machines. Foremen who were not in favor of the step were told that the policy had been definitely decided upon and that their cooperation was expected. Hazing was declared to justify discharge.

No adjustment in working hours was necessitated by the dilution; the weekly schedule of the Sharey Company was that prescribed by Pennsylvania law as the legal maximum for women in factories. Some expense was incurred by the installation of washrooms and a restroom for the women workers. A matron was employed to take charge of the restroom.

The company found that women took no longer to become proficient at the finishing operations than did men. Two weeks was the average training period required. The costs of training were caused chiefly by decreased production and damaged product. Some of the damaged skins could be refinished; not all were "seconds" or scrap. A number of the women were experienced and needed no training, having worked in the finishing departments of other tanneries.

The machinery and equipment used in the finishing departments had been built and assembled by local millwrights and machinists. These items were not expensive and the overhead charges on them were not large.

The employment of women necessitated some additional trucking assistance in the finishing departments, because the women could not transport the piles of leather to or from their machines. Truckers ordinarily took material to and from departments, but the men doing finishing work carried stock to and from their machines.

During the experimental period, the quality of the women's work in all the finishing departments where they were employed was reported to be satisfactory. The women, moreover, produced

at approximately the same rates as the men on most of the operations. On the "seasoning," or hand-doping operation, however, for which no direct male labor was employed, the women's rate of output was only about 70% or 75% of the rate formerly maintained by the men. When the supplementary male labor necessitated by the employment of women in this department was taken into account, the output per worker in the department was about two-thirds of its former figure. The lower output in this department probably was the result of the physical labor involved in the seasoning operation; operatives had to stand and bend over a wide table while spreading the seasoning compound upon the skins. This operation had to be done evenly in order to avoid "streaking."

As far as the management knew, little hazing took place. No discharges were made for this cause and no woman gave this reason for leaving the company's employ.

The industrial relations department, in tabulating absence and turnover figures, found that the absence and turnover rates[1] for women were 50% higher than those for men.

During normal times, should the employment of women in industrial pursuits be encouraged?

3. Tuckerman Machinery Company

APPRENTICES TO LEARN FOUNDRY WORK

For 70 years, the Tuckerman Machinery Company had conducted apprentice courses, lasting for from 1½ years to 4 years, for the training of machinists, draftsmen, pattern makers, molders, core makers, and blacksmiths. Until 1920 the company had experienced no difficulty in recruiting boys to enter these courses. During the period from 1920 to 1924, however, few boys had made applications to enter the courses in molding and core making, which were given in the foundry. The company deemed it advisable to increase the number of foundry apprentices, but, up to December, 1924, had not succeeded in doing so.

The company manufactured machinery, was located in a city

[1] A "labor turnover" rate was obtained by dividing the average number of workers on the pay roll during a given period into the number of workers leaving the company's employment during that period.

of 175,000 population, and in December, 1924, was employing approximately 5,000 workers.

At that time, there were 100 boys from 16 to 21 years of age taking the company's courses: 6 were taking the course for molders, 8 that for core makers, 5 that for pattern makers, 20 that for draftsmen, 4 were studying to be screw-machine operators, and 57 to be machinists.

The purpose of the company's apprentice courses was to educate young men in all phases of their chosen trades so that they could qualify with the company as skilled workers and as leaders of those who had not had the opportunity to obtain a varied training. The apprentices were trained to be able to fill positions of responsibility, and could look forward to promotions. In the past, the company's apprentices had proved to be valuable additions to its force. Several of the department foremen and many of the section foremen were graduates of the apprentice courses. Responsible positions under the factory superintendent and in the drafting, engineering, and sales departments also were held by former apprentices. All graduates had attained a degree of skill for which there was a demand in other factories manufacturing machinery.

A grammar-school education was a prerequisite for all courses; for drafting, a boy had to have, in addition, an education equivalent to that necessary for successful completion of the course in the technical high school of the city in which the plant was located.

Each boy who desired to enter the plant of the Tuckerman Machinery Company and who had the required prerequisites was given a preliminary examination to test his knowledge of simple mathematics, including fractions, decimals, percentage, ratio and proportion, square root, and mensuration. If the results of the examination and the references submitted were satisfactory, the company set a date at which the boy was to enter the course.

The first 12 weeks after a boy enrolled in a course constituted a trial period. If the boy's work was satisfactory at the end of the period, he signed a contract in conjunction with his parents and an official of the company indenturing him to the company for the specified term of his apprenticeship. When he signed the contract, the apprentice paid a fee, as an evidence of good faith. He forfeited this fee if he did not fulfill

his contractual obligations. At the time of graduation, the company paid each apprentice a bonus, which had been promised him when the course commenced and which was considerably in excess of the original fee. Length of service and wage rates for the different courses are given in Exhibit 1.

The company believed that the formal agreement and the payment of a fee were necessary, in order to discourage the enrollment of boys who would not complete the courses. A boy who lived at home could save enough of his earnings during the three months of the trial period to pay his entrance fee when the con-

EXHIBIT 1

LENGTHS OF COURSES AND RATES OF PAY FOR APPRENTICES OF TUCKERMAN MACHINERY COMPANY

Apprentice Courses	Length	Number of Periods	Length of Periods
Blacksmiths	3 years	3	1 year
Core Makers	1½ years	3	6 months
Draftsmen	2½ years	3	10 months
Machinists	4 years	4	1 year
Molders	3 years	3	1 year
Screw-Machine Operating	2 years	4	6 months

Apprentice Courses	Wage Rates per Hour			
	First Period	Second Period	Third Period	Fourth Period
Blacksmiths	$0.25	$0.28	$0.31	.....
Merit Wage	.02	.02	.03	.....
Core Makers	.26	.28	.32	.....
Merit Wage	.02	.02	.03	.....
Draftsmen	.23	.25	.30	.....
Merit Wage	.01	.02	.03	.....
Machinists and Pattern Makers	.19	.21	.24	$0.28
Merit Wage	.01	.02	.03	.03
Molders	.28	.32	.38	.....
Merit Wage	.02	.02	.03	.....
Screw-Machine Operating	.27	.31	.35	.39

tract was signed. The company permitted boys who were unable to make full payment at that time to pay in weekly installments. The fee varied according to the length of the training period. The fee for machinists and pattern makers was $50 and the bonus paid them upon completion of the course was $150; the fee for draftsmen was $25, and the bonus $75; for molders and blacksmiths, the fee was $25 and the bonus $100; for core makers the fee was $25 and the bonus $50. At the end of the trial period, machinists and molders had to buy tools which cost them $13 and $19, respectively; the company furnished tools during the trial period. The company paid the additional, "merit" wage to those apprentices whose rating, based upon the quality of their work, their scholarship, and their deportment, was "excellent."

The boys were given a thorough training in all phases of their chosen trades. Machinist apprentices studied centering, lathe work, drilling, both by the use of jigs and where laying out the work was required[1], milling, fitting, assembling, screw cutting, repair work, screw-machine operating, and toolmaking. Boys in the drafting course studied a variety of work which included the designing of parts for all machines manufactured by the company. Pattern makers, in addition to making forms from the specifications of the designing department, spent a portion of their training period in the foundry. Molding apprentices were given experience in floor molding, bench molding, core making, and cupola practice[2]. The work of core makers, on both light and heavy cores, included trimming and baking. Blacksmiths were taught both hand and drop forging. Screw-machine operators were taught to be specialists on operating all types of screw machines. The screw-machine department was functional in that it produced parts for all other direct manufacturing departments in the factory.

There was classroom work in connection with all the courses.

[1] Drilling by the use of a jig involved setting up the machine according to the requirements of a blue print. No measurements on the material were necessary to determine the place to be drilled. Where there was no provision for a jig on the machine, the operator had to determine the point to be drilled in the material from the dimensions specified in the blue print.

[2] The cupola is the shaft furnace in which pig iron is melted preparatory to casting. Pig iron, coke, and limestone are charged into the cupola near the top of its stack. The melted iron is drawn off at the base of the cupola.

Instruction was given in machine-shop mathematics, including linear and angular measurement, the calculation of screw threads, gearing, feeds and speeds of machinery, and indexing. The drafting of jigs, fixtures, cams, and other mechanisms also was taught. Supplemental instruction in the form of lectures by men outside the company's organization gave the apprentices a knowledge of subjects of general interest.

In 1919, the company became aware of a shortage in foundry apprentices. This shortage continued through December, 1924. Most of the applicants did not want to enter the foundry course and of those who did a majority quit within the first two weeks.

All cast-iron parts for the machines manufactured by the company were cast in its foundry. The major operations in that department, which employed approximately 350 men, were molding, core making, melting, pouring, and cleaning.

Because of the nature of the operations, working conditions in the foundry were not so pleasant as in other departments of the plant. The work involved the handling of sand, bars of pig iron, iron scrap, coke, and limestone, and was so dirty that the workers made a complete change of outer garments in the morning before beginning work and at night before going home. Much of the work was heavy, particularly the carrying of flasks of sand from the molding bench to a point near the monorails. There was always a danger of molten iron splashing and the remote possibility of crane chains parting. During the melting of the metal, the furnaces gave off obnoxious smelling gases and smoke. The company, however, always had maintained as good working conditions as possible. A cement floor in all parts of the foundry eliminated dust to a large extent and an adequate system of ventilation removed gases and smoke. Shower baths were provided for the employees.

The company had analyzed the situation in regard to the dearth of foundry apprentices. The apprentice supervisor questioned all boys who were dissatisfied with the foundry courses. He learned that the boys believed that the work was too hard and dirty. Work in the other apprentice courses was cleaner and did not require the occasional heavy lifting that foundry work involved. Apprentices in other than the foundry course did not have to make a complete change of outer garments; they merely put on overalls and jumpers over their street clothes. There

were no dust and fumes in the other departments where apprentices were trained.

The company believed, however, that it was foundry conditions in the industry as a whole that kept boys from choosing foundry work as a trade. A large number of foundries were built directly on a hard dirt floor and many of them did not provide shower baths for the workers. Those conditions had become generally known and boys preferred either "white collar" jobs or apprenticeships in the machinists' trades. The high wages in the building trades appealed to boys just out of school. A boy could learn enough of the carpentry trade in six months to be in a position to earn $7 or $8 a day. With the activity in building, particularly in 1923 and 1924, opportunities in that industry were numerous and boys frequently took advantage of them.

It was the opinion of the factory superintendent that the blame for lack of workers in the foundry industry could be placed on all companies which operated foundries with poor working conditions. He believed that better conditions throughout the industry would break down the antipathy to foundry work which boys just out of school felt. The National Metal Trades Association had succeeded in pointing out the trouble to foundries in the Milwaukee district, with the result that radical changes for the better had been made in working conditions there. The results obtained were reflected in an immediate increase in the number of boys who took up foundry work as a trade.

Should the company have attempted to increase the number of applicants for foundry training by paying higher wages, or by seeking to bring about a general improvement in working conditions in the foundry industry?

4. National Association of Window Glass Manufacturers, *et al.*, *v.* United States[1]

LABOR SHORTAGE

Mr. Justice Holmes delivered the opinion of the court:

This is a proceeding brought by the United States under the Act of

[1] Supreme Court of the United States, Argued November 22-23, 1923. Decided December 10, 1923. 44 Sup. Ct. 148.

July 2, 1890,[1] to prevent an alleged violation of Section 1[2] which forbids combinations in restraint of trade among the states. The defendants are all the manufacturers of hand-blown window glass, with certain of their officers, and the National Window Glass Workers, a voluntary association, its officers and members, embracing all the labor to be had for this work in the United States. The defendants established a wage scale to be in effect from September 25, 1922, to January 27, 1923, and from January 29, 1923, to June 11, 1923; and the feature that is the object of the present attack is that this scale would be issued to one set of factories for the first period and to another for the second, but that no factory could get it for both, and without it they could not get labor and therefore must stop work. After a hearing a final decree was entered enjoining the defendants from carrying out the above or any similar agreements so far as they might limit and prescribe the time during which the defendant manufacturers should operate their factories for hand-blown window glass.[3]

This agreement does not concern sales or distribution, it is directed only to the way in which union labor, the only labor obtainable it is true, shall be employed in production. If such an agreement can be within the Sherman Act at least it is not necessarily so.[4] To determine its legality requires a consideration of the particular facts.[5]

The dominant fact in this case is that in the last quarter of a century machines have been brought into use that dispense with the employment of the highly trained blowers and the trained gatherers needed for the hand-made glass and in that and other ways have enabled the factories using machines to produce window glass at half the cost of the hand-made. The price for the two kinds is the same. It has followed, of course, that the companies using machines fix the price, that they make much the greater part of the glass in the market, and probably, as was testified for the defendants, that the hand-makers are able to keep on only by the sufferance of the others and by working longer hours. The defendants say, and it is altogether likely, that the conditions thus brought about and the nature of the work have driven many laborers away and made it impossible to get new ones; for the work is very trying, requires considerable training, and is always liable to a reduction of wages if the machine industry lowers the price. The only chance for the hand-workers has been when and where they could get cheap fuel and therefore their tendency has been to follow the discoveries of natural gas. The defendants contend with a good deal of force that it is absurd to speak of their arrangements as possibly having

[1] c. 647, Section 4 (26 Stat. 209 [Comp. St. Section 8823]).

[2] Comp. St. Section 8820.

[3] 287 Fed. 228.

[4] *United Mine Workers of America* v. *Coronado Coal Co.*, 259 U. S. 344, 408, 42 Sup. Ct. 570, 66 L. Ed. 975.

[5] *Board of Trade of Chicago* v. *United States*, 246 U. S. 231, 238, 38 Sup. Ct. 242, 62 L. Ed. 683, Ann. Cas. 1918 D, 1207.

any effect upon commerce among the states, when manufacturers of this kind obviously are not able to do more than struggle to survive a little longer before they disappear, as human effort always disappears when it is not needed to direct the force that can be got more cheaply from water or coal.

But that is not all of the defendants' case. There are not 2,500 men at present in the industry. The government says that this is the fault of the union; the defendants, with much greater probability, that it is the inevitable coming to pass. But wherever the fault, if there is any, that is the fact with which the defendants had to deal. There were not men enough to enable the factories to run continuously during the working season, leaving out the two or three summer months in which the heat makes it impossible to go on. To work undermanned costs the same in fuel and overhead expenses as to work fully manned, and therefore means a serious loss. On the other hand, the men are less well off with the uncertainties that such a situation brings. The purpose of the arrangement is to secure employment for all the men during the whole of the two seasons, thus to give all the labor available to the factories, and to divide it equally among them. From the view that we take we think it unnecessary to explain how the present system sprang from experience during the war when the government restricted production to one-half of what it had been and an accident was found to work well, or to do more than advert to the defendants' contention that with the means available the production is increased. It is enough that we see no combination in unreasonable restraint of trade in the arrangements made to meet the short supply of men.

Decree reversed.

Petition dismissed.

1. Would the manufacturers of hand-blown glass have been justified in trying to increase the supply of trained workers for their plants?

2. Should the use of machine methods of manufacture have been opposed by the

a) Workmen trained in hand-blowing?

b) Workmen in the industry as a whole?

XXVII

WAGE PROBLEMS

Black, 42-53, 442-467; Bye, 413-435; Clay, 279-288, 341-345; Edie, 346-387; Ely, 423-438; Fairchild, II, 231-255; Gide, 574-599; Marshall, 504-518, 538-579, 693-702; Rufener, 356-386; Seager, 244-261, 287-293; Seligman, 413-431; Taussig, II, 131-163, 208-224, 281-297; Turner, 449-466.

1. Harnett Generator Company

WAGE PLAN TO INCREASE OUTPUT

In the Harnett Generator Company, which was engaged in the production and assembly of small motors and generators, 70% of the employees were paid on a piecework basis. Of the 30% on a daywork basis, a majority were in the tool department, where tools were constructed and repaired. There had been complaint that slow production in the tool department was interfering with operations in the other departments. Consequently, the management considered the advisability of installing a bonus system of payment in that department with a view to increasing the productivity of the workmen.

Tools seldom were reproduced. Since operations on similar work in the tool department varied, piece rates there were impractical. Each job was analyzed from the blue prints into separate operations, which were recorded and scheduled on the production sheets. Each employee specialized on one type of operation; all lathe work was assigned to lathe operators, and the same method was applied to milling, bench, backing-off boring, grinding, and sharpening work. The employees, who were experienced toolmakers, followed the instructions on the production sheets; otherwise they were under no restrictions and performed their tasks in whatever manner seemed best to them. The management was convinced that if the men were given an incentive in the form of a bonus, it would be possible to obtain increased production, lower unit costs, and better

coordination with the other departments. Satisfactory relations existed between the employees and the company. It was suggested, however, that the installation of the bonus plan should take place at a time when there was sufficient work to keep all men occupied. Otherwise, increased production by some workmen might mean loss of jobs by others, and under those circumstances the failure of the plan was certain. Once the plan had been in successful operation a sufficient length of time to gain the confidence of the employees, however, there was less danger that the cause of necessary lay-offs, in case of business depression, would be misunderstood.

In January, 1923, orders for the company's products were increasing, and the officers authorized installation of a bonus system in the tool department. This system in brief was as follows: Standard times were set for each operation on a job, and in addition to the day rate a bonus was paid which was based on one-half the time saved; the saving represented by the other half was retained by the company. The day rate remained the same as previously.

The man who analyzed the jobs from the blue prints was a graduate of an engineering school and had been employed for several years in drafting and in toolmaking. Upon him was placed the responsibility of setting the standard time for the completion of each task. Except in rare cases, no two tools were alike. Since the time required by different men on similar tasks varied, the tasksetter, although he kept records of the time consumed on various operations, was forced in the main to rely on his own judgment in determining standard times. To his estimate was added 25% as an allowance for possible delays; the sum of the two was the total time to be entered against the operation on the production sheet.

The production sheets were kept by the foreman, who allotted the work as appeared advisable. When assigned to a task, a workman had the privilege of determining from the production sheet the time allowed him. In only three situations could the standard time for a task be changed. First, if there had been an obvious error in the time set, a correction was made. Second, if the stockroom clerk was unable to furnish the material specified in the blue print, that fact was reported to the tasksetter, who then estimated the time on the basis of the stock available.

To reduce to a minimum the possibility of delay from this cause, the drafting department kept in close touch with the stockroom and assured itself that the proper materials were on hand. Third, if a workman was convinced that the procedure specified by the tasksetter was not the best and could convince him of that fact, a new time was determined, based on the revised method of operation.

When a man completed a task, the elapsed time, as shown by his time card, was entered against the operation on the back of the production sheet. When all work on the tool was completed, this sheet was turned over to the timekeeper, who checked elapsed time against allowed time and entered the balance, if any, on each man's weekly record. It was thought best to credit each workman with his bonus time after all subsequent operations on the tool had been finished rather than immediately after the completion of his task, for the following reasons: First, the practice of the company was to inspect only completed tools. It was assumed that if one man performed his work poorly and did not report the fact, the man on the next operation would do so, in order not to be blamed for the imperfection. So few spoiled pieces had further operations performed upon them that the management was convinced that more frequent inspection would not be worth while. It equally was convinced that bonus time should not be reckoned before the workmanship had been inspected, lest the stimulus for quality production be reduced. Second, the production sheet on which were recorded the allowed and the elapsed time remained with the tool, and was not given to the timekeeper until all operations had been completed. More frequent reckoning of bonuses would have necessitated extra clerical work, which the company decided was not justifiable.

Bonuses were not paid on individual operations. All tasks on tools completed during the week were figured collectively for each man, his minutes gained weighed against his minutes lost, and the balance used to compute his bonus. In arriving at the balance, the timekeeper added together all the minutes credited to the man during the week and divided this sum by two; from this he subtracted all minutes lost charged against the man during the same week. The credits were divided in half because the agreement of the company was to pay a bonus for one-half the

time saved. The excess time, however, was subtracted in full, because, from the viewpoint of the management, the man had consumed not only estimated time plus the 25% allowance, but also additional time. Inasmuch as every precaution was taken to insure reasonable continuity of production, and since the 25% allowance had been granted to cover possible delays, the management reasonably could assume that the extra time consumed was the man's own fault, and should be charged against him in its entirety. Thus, if a man worked 48 hours in a week and for the jobs completed during that week had been credited on the timekeeper's record with 15 hours saved and charged with 3½ hours lost, his total time was 52 hours (48+[15÷2]—3.5). This figure was used by the pay roll department in determining his week's wage. If an employee's bonus time showed a minus balance, he was paid for the actual time he had worked, since he was guaranteed his full day rate. Each week's bonus record, moreover, was complete in itself; a minus or plus balance for one week had no effect on subsequent earnings.

Although a man knew what bonus he had earned or lost on each task, he never knew in advance what his weekly balance would be, because the tools on which he had worked sometimes were not completed until from four to six weeks later. To give him this information and thus guard against possible indifference, an efficiency list showing the plus balance credited to each man for the jobs completed during the previous week was posted one day before pay day. This list stimulated the interest of the men and aroused a spirit of competition among them. Furthermore, a permanent record was kept of the weekly efficiency of each man as shown by these lists, and this record was consulted when questions of promotion or lay-off arose.

Wages and bonuses were paid in one lump sum. It was thought unnecessary to have any mark of distinction between the two amounts, inasmuch as each man knew his day rate and was able to estimate his bonus from the efficiency list.

In case of spoiled work, men who had completed their tasks satisfactorily on that tool before the damage was detected were credited or charged with their minutes gained or lost. The man who had performed his task imperfectly, however, was required to do the operation over again. He received his day rate, which

was guaranteed, but all time spent on the second task was added to the time consumed on the spoiled one and figured on the bonus record as if he had spent the combined time on the one operation.

Should this plan of wage payment have been adopted?

2. MacBride Electric Company

GROUP PIECE RATES

When the MacBride Electric Company started to manufacture a new type of oil circuit breaker, the assembly department operations were laid out progressively through four stations. Each circuit breaker was mounted on a special truck which traveled along a track passing through these stations, to each of which one workman was assigned. The management desired to pay the four men on a piece-rate basis, either individually or as a group.

Under the plan of individual payment each man would receive a stated amount per unit for the operations which he performed. This had the advantage of furnishing a direct incentive to the individual to exert his maximum effort. It was undesirable, however, in that it did not stimulate complete group cooperation. One man in the line might delay all the others either through lack of proficiency or through unwillingness to work at maximum speed. It was impossible, moreover, even under the most satisfactory conditions, to divide the operations between the stations in such a way that a continuous flow of work would be assured. The only method by which the management could overcome these difficulties was to allow the men who were delayed to change temporarily from their stations in order to help the workman at the station where the delay initially occurred. It then would be necessary, however, to determine the relative proportion of the assembly operations at that station performed by the regular man and by the others who assisted him. This would require exact subdivision of the assembly operations at each station and the establishment of piece rates for each subdivision. Increased expense thus would be entailed in the establishment of the piece rates and in the clerical labor necessary for the preparation and issuance of large numbers of piece-rate vouchers.

Under the group payment plan, the management proposed to use a piece rate per finished circuit breaker in determining the

total compensation for the group as a whole. The division of the group amount among individual workmen was to be based on individual day rates established with regard to the relative ability of the workmen. If, for example, the piece price set for the complete assembly of an oil circuit breaker was $11.50 and the men completed eight of them in a week, the total pay roll for the group would be $92. Since all four men might not work the same length of time or be assigned the same day rate, it was necessary to multiply each man's day rate by his hours of work to obtain his total day-rate amount. If, for example, these day-rate amounts totaled $67.60 for the week, the difference between this figure and the piecework total would be $24.40, or 36.1% of the day-rate total. To each man's day-rate amount for the week 36.1% then would be added to determine his total compensation under the group piece-rate plan.

Since it was possible, furthermore, that occasionally no oil circuit breakers would be completed in a week and since the men required a minimum amount for living expenses, an arrangement was needed whereby they could be advanced a specified percentage of their normal weekly earnings, this amount to be deducted from the payment for the machines when completed. For practical purposes the payment of the day-rate amount would be satisfactory to the workmen and sufficiently below the piece-rate earnings to protect the company.

The probable result of group piece-rate payment was more thorough cooperation among the men than could be secured under individual rates. An additional advantage was that the plan required no minute subdivision of the operations performed in each station, and, therefore, fewer piece-rate vouchers. Although the plan involved extra clerical work in the calculation of the portions of the group pay roll due each member of the group, the probable net effect was substantially lower clerical expense than would be incurred under the individual piece-rate method. A disadvantage of the group plan, however, was that payments to the workmen frequently might be irregular; the minimum day rate would be sufficient for subsistence, but the maximum earnings might encourage extravagance.

In order to secure more thorough cooperation among the men who assembled oil circuit breakers and to avoid the expensive detailed records needed for calculating earnings on the individual

basis, the management decided to pay the men by a group piece rate. The group plan resulted in satisfactory performance of assembly operations.

1. Under what conditions in this case were "money" wages advanced to the workmen, and under what conditions were "real" wages advanced?

2. Would the workmen have been more dependent upon each other, or less so, if each assembly operation had been performed by a separate company?

3. Tareyton Milling Company

PROMOTION OF WORKMAN TO MORE HIGHLY PAID TASK

The Tareyton Milling Company wished to provide for the promotion of Thomas Downs, who had been in its employ for four years. During that time, he had shown his loyalty, faithfulness, and dependability, so that for two years he had been receiving $28 a week as one of the best unskilled workmen in the plant. He had reached the maximum wage, however, for that class of labor. The management, therefore, was confronted with a serious difficulty in arranging for his promotion because he would have to begin in a different department and learn a new type of work at $20 a week.

The opening available for Downs was a machine job, in which an operator eventually could earn as much as $38 a week. The superintendent in charge of the department had requested the employment manager to furnish him with a suitable man, but insisted that he could not accept any one at an initial rate higher than $20 a week, because he was responsible for keeping the cost of goods produced in the department as low as possible.

The company's policy was to reward faithful services by filling the better jobs with employees who had demonstrated their worth. The employment manager thought that Downs should have this opportunity and explained to him that at first he was to receive only $20 a week, but that at the end of six months he no doubt would be making more than $28 a week, and that ultimately he could earn $38 a week. Downs appreciated the situation, but informed the employment manager that, since he

had to support his wife and three children, he could not work for less than $28 a week.

The division superintendent estimated that to pay Downs for machine work at $28 a week from the beginning involved a loss of about $100 to the department. The company did not compel superintendents to accept men at higher rates than the official starting wage.

The employment manager and the division superintendent were unable to agree on this question, and it was referred to the general manager of the plant, who investigated the entire subject. He found that this problem was one which occurred frequently. He was convinced, nevertheless, that the company had no right to charge into the cost of goods the excess wages caused by the transfer of a man from one job to another without a reduction in wages, when the starting rate of the new job was lower than the remuneration formerly paid. It was apparent, however, that there was an intangible percentage of cost involved in the training of men and in proving the reliability and faithfulness of each individual employee. The men who had shown that they possessed these qualities were worth more to the company than new, untried men. The general manager, furthermore, realized that a definite plan to facilitate the transfer of desirable men from one department to another had the advantage of encouraging workers to develop the qualities necessary for advancement. This incentive would be lacking if men already working in the plant saw the positions which led to higher wages and greater responsibility filled by new men.

The general manager, therefore, believed that the company should capitalize those qualities which proved a man worthy of promotion. This could be accomplished by the company's assuming half the difference between the man's established wage at his former job and the starting wage at the new one, since his demonstrated ability was worth that much. Thus the earnings of a man who was transferred would be lowered by one-half the difference between the compensation for the two types of work. The acceptance of a temporary reduction in wages by an employee who was ambitious and eager to advance proved that he could visualize the opportunities presented to him.

The general manager, therefore, decided to authorize and instruct division superintendents to accept worthy men for the

departments on the recommendation of the employment manager. Wages were to be adjusted according to the method described. Thus a man who had been earning $30 a week as a maximum wage for one type of work could be transferred to a different department to start on a job ordinarily paying $20 a week and receive $25 a week, provided that the new job was expected to yield subsequently a return greater than that of the man's former occupation.

When this ruling was applied, Downs stated that it was impossible for him to accept even the reduction of one-half the difference between the two rates of payment. The general manager then decided that the extension of further assistance to men in similar circumstances was advantageous to the company. He instructed the employment manager to prepare and maintain a list of all opportunities arising throughout the plant for overtime work. There were various jobs such as cleaning after working hours, washing windows, loading and unloading goods at irregular times, and minor construction work on which men could be given employment in addition to their main jobs. It was calculated that the total income of a transferred employee would be sufficient to live on until he earned an increase. Downs thus was enabled to earn his usual wages while acquiring proficiency in his new work. This plan was expected to give the employment manager further evidence of a man's steadiness and desire to work for an advance.

1. Should general adoption of this company's promotion policy have been advocated by
   a) Unskilled workmen?
   b) Semiskilled workmen?
   c) Skilled artisans?
   d) Employers?
   e) Professional men?
2. Did Downs' new position require more effort on his part?

XXVIII

UNIONISM

Black, 735-739; Bye, 429-431; Clay, 116-117, 285-288; Edie, 433-441, 784-792; Ely, 86-89, 439-454, 465-467; Fairchild, II, 535-568; Gide, 599-613; Marshall, 568-569, 627-628, 693, 698-700, 702-710, 823, 825; Rufener, 387-411; Seager, 576-601; Seligman, 432-448; Taussig, II, 298-317; Turner, 36-53.

1. Barnes *v.* Berry[1]

action to prevent strike

Thompson, District Judge (orally).

. . . . The real parties in interest are the employers and the employees. They are the constituents of the two organizations. In their associated capacity they act through officers and agents selected by them. The contract in question was made by the constituent members of these associations, acting through their officers and agents. The employers now seek to enforce practically the specific performance of the contract by enjoining the officers and agents of the employees from: (1) Violating the contract by demanding a modification thereof whereby the "eight-hour day" and the "closed shop"[2] may be instituted; (2) calling, instituting, or inciting strikes or otherwise hindering, interfering with, obstructing, or stopping the business of the employers because of their refusal to institute the "eight-hour day" and the "closed shop"; (3) arranging for a referendum vote of employees upon the subject of instituting strikes; (4) paying strike benefits.

The purpose of the contract or agreement is set forth in the first paragraph thereof, as follows:

> For the purpose of establishing between the employing printers of the United States and their pressmen and feeders uniform shop practices and fair scales of wages, settlement of all questions arising between them, and the abolition of strikes, sympathetic or otherwise, lockouts and boycotts.

[1] Adapted from *A. R. Barnes & Co., et al.*, v. *Berry, et al.* Circuit Court, S. D. Ohio, W. D. Oct. 21, 1907. 156 Federal Reporter 72.

[2] A "closed shop" is one in which only members of labor unions are employed. An "open shop" is one in which there is no discrimination between union and nonunion laborers. A "preferential shop" is one in which the employer agrees to employ union laborers so far as they are available, but employs nonunion workers when the supply of unionists is inadequate.

It is charged in the bill that at a convention of the Union held at Pittsburgh, in June, 1906, the board of directors of the Union, were authorized and instructed to meet a committee of the Typothetae[1] and secure a renewal of the contract expiring May 1, 1907, which action of the directors should be final without ratification by the Union, and that the agreement of January 8, 1907, so made by them is binding upon the Union and its constituents, without their ratification, although ratification thereof by the convention of the Typothetae was necessary to make it effective. On the other hand, Berry, the president of the Union,[2] by affidavit, sets forth a copy of the report of the "committee on officers' reports," based upon the recommendation by the president of the Union, and which was adopted by the convention, in which it is stated that:

> The committee are pleased to coincide with the recommendations of the board of directors, inasmuch as they are of such a nature that the committee have seen fit to indorse the plan of assessment as formulated by the board, and that we recommend that this convention declare in favor of the eight-hour day immediately after the expiration of the agreement now existing between the U.T.A. and the I.P.P. and A.U., provided it is not within the scope of possibilities of having same arranged amicably and equitably between the U.P.A. and I.P.P. and A.U., within a reasonable time after the expiration of the agreement now existing between these two respective organizations.

. . . . . .

. . . . So far as we are advised, the contract was duly made by the two associations, and its validity has not been questioned; but since its execution President Higgins, Vice-President Gordon, and Secretary and Treasurer Webb have been succeeded by Berry as president, by Breen as vice-president, and by McMullen as secretary and treasurer, and the new officers and directors have demanded that the contract be modified in the respect already mentioned, and, to enforce that demand, have, as alleged in the bill, incited strikes against members of the Typothetae who have refused to accede to the modifications, and have threatened to pursue the same policy against all other members thereof who so refuse.

The "closed shop" is contrary to public policy, and the demand for the immediate adoption of the "eight-hour day" is violative of the contract. Now, this is the situation as I see it. This contract was made. The old officers were succeeded by new ones, who were dissatisfied with it. They insisted upon a modification of it which would recognize the "closed shop" and adopt at once the "eight-hour day."

[1] [United Typothetae of America, an association of employers in the printing industry.]

[2] [The International Printing Pressmen and Assistants' Union of North America.]

The Typothetae stood upon its contract rights and refused to make this concession, refused to change and modify the contract made, and it is alleged in the bill that in consequence thereof strikes have been declared against certain members of the Typothetae in different parts of the country, and that strikes are threatened as against all members of the Typothetae who may refuse to accede or consent to the modification of the contract as demanded. Practically the Union is insisting upon a new contract.

The service of the employees, members of the Union, is neither special, extraordinary, nor unique, in the sense that it could not otherwise be supplied, and that its loss would cause irreparable injury, and it is not sought to restrain them from quitting the service of their employers, but only that their officers, agents, and representatives be restrained from inciting them to strike, unless the contract be so modified as to make provision for the "eight-hour day" and "closed shop," and to make it effective at once. It is not a question, therefore, of whether the men who work shall be enjoined from striking, but it is a question whether the officers, agents, and representatives of these men who represent the organization and control it, shall be permitted to incite the men to strike, to induce them to strike, and thereby repudiate the contract which was made by them through their agents at the January convention of 1907. The bill charges that the executive officers and directors have conspired to force the making of a new contract which will embody these two demands, and, in the event of the refusal of the Typothetae to agree thereto, then to enforce these demands by strikes, and that they are using their position, power, and authority to control and induce the men to strike. That, in substance, is the allegation of the bill.

The court is not asked to make an order enjoining the men from striking, and, if it were asked, would refuse to grant it, because, as already stated, no case is made, nor can be made, in which the court would compel the men to labor. They cannot be made slaves. They cannot be compelled to work, and it is not sought by this bill to compel them to work; but it is sought to prevent the officers of the organization from using their power and influence to induce the men to strike in violation of their contract.

It is plain that these officers have great influence and power with the body of men composing this association, and if they exercise it unlawfully—exercise it for the purpose of repudiating the contract—they may be restrained from exercising such power and influence, although the men themselves cannot be restrained from striking, or from walking out, at any time, and refusing to work. In a word, the proposition dealt with is this: May the officers of this organization, in violation of this contract, induce, influence, incite, or coerce the men into resorting to a strike to compel a modification of the contract? Shall they be permitted to do that?

Now, after having carefully read these pleadings, the affidavits, and the different exhibits, it seems to me plain that in January, 1907, a contract was completed between these two associations, after a contest over these very questions that are now raised, and it was believed by those representing the Union at that time that the best thing they could do would be to accept the proposition to make the "eight-hour day" operative in 1909. They felt compelled to accept that as a reasonable time. It was a question as to what would be a reasonable time, and from their point of view a reasonable time was at once. The other side sought to postpone it as long as possible, and finally a compromise was reached fixing 1909 as the time. When the new officers came in, they were dissatisfied with the action of the old board of directors and of the officers and with the convention. They thought that those men should have made a stronger fight. They felt that the Union had not been fairly treated; that if they had stood out as they should have done they could have shortened the time. They felt aggrieved. Then they made the demand that this contract, which had been made by the old board and officers, should be modified to meet their wishes, or that they would not abide by it.

I am compelled to dispose of this case upon what appears in the bill and the accompanying affidavits. There is no answer, and no affidavits on behalf of the defendants, except the ones I have read. I am now disposing of the application practically upon what is shown by this bill. It is shown by the bill that, being advised of this contract, they advised the men to repudiate it, to demand the "eight-hour day" be made operative at once, and also the "closed shop," and to enforce the demand they threatened strikes, and it is alleged that strikes have been entered upon in Chicago, and other places throughout the country, and that a strike will be instituted against every member of the Typothetae unless it consents to this modification of the contract.

Now, so far as the men are concerned, if they take it into their own hands, they may walk out, but this court is asked to stay the hands of the officers who manage and control this organization, who have power to influence, to incite, to put on foot these strikes, who have all the machinery in their hands, and who seek to use it to induce and incite these men to violate a contract that was fairly made.

I am of the opinion, therefore, that a case is made requiring that these officers, named, be enjoined, in the respects prayed in the bill, from exercising their power, their control, and their influence to induce strikes for that purpose.

1. Do you agree that "the real parties in interest are the employers and the employees"?

2. Was the decision of this court likely in the long run to benefit the labor unions?

2. Tristate Transit Company

AMOUNT OF WAGE INCREASE PROTESTED BY UNION AGENT

In April, 1918, the general manager of the Tristate Transit Company voluntarily increased the wages of all the company's employees 10%. To his surprise, the business agent of the street-car operating employees' union protested that the amount of the increase was inadequate.

The Tristate Transit Company operated city and interurban street-railway lines in a large territory including 3 industrial cities of over 50,000 inhabitants each. The company employed approximately 5,000 men, 60% of whom were car operators or so-called "platform" men. The car-operating men were completely unionized. For a number of years the company and the union had been parties to labor agreements. Those agreements had specified, among other things, wage rates, the determination of working time, and the method of adjusting grievances.

Several local unions, with headquarters at different points in the area served by the Tristate Transit Company, were federated in an organization which represented the transit system as a whole. The officials of the federation dealt with the company's executives on issues of general importance. A local problem or a personal grievance was settled ordinarily by local union officers and the superintendent in charge of the division upon which the issue arose. These local unions and the system federation in turn were affiliated with a national labor organization of street-car operating employees. The mutual relations of these union bodies and their policies toward their employers were governed by the constitution and by-laws of the national organization.

In 1918, in common with many other street-railway systems, the Tristate Transit Company entered upon a period of financial stress. A street-railway company operating in a neighboring territory, for instance, was obliged to discontinue service on some of its lines as a result of adverse financial conditions. The local press had given publicity to the financial condition of the Tristate Transit Company from month to month.

On October 15, 1917, the Tristate Transit Company had won public approbation by the means it had taken to avert a strike; the company had negotiated an agreement with the street-car operating employees' union whereby wages were increased to cor-

respond with the rise in the cost of living. The agreement was for a six months' period. On January 1, 1918, the man who was then general manager retired. The executive who took his place was a prominent engineer.

The company's employees, with few exceptions, were native-born Americans. The officers and executive committee members of the street-car operating employees' union were predominantly of Irish extraction and most of them had held their offices for several terms. With the exception of the business agent, who represented employee interests throughout the company's territory, these union officials held one-year terms. A business agent was elected for a two-year term. Elections were held annually in June. The term of the business agent holding office in 1918 was to terminate in June of that year. This business agent had been a successful leader in local politics before he became union representative.

In March, 1918, the general manager of the company reviewed changes in the labor situation and in living costs. He decided that he would be justified in making a flat increase of 10% in the wages of all the employees. A public announcement of official figures of changes in the cost of living indicated that the cost of living had increased approximately 10% between October, 1917, and March, 1918. The general manager also had obtained reports privately of the retail prices in the territory served by the Tristate Transit Company's system. He had found that the figures thus obtained agreed substantially with the official reports. In March, 1918, the manager was planning to put into effect operating economies which would nearly balance the 10% increase in wages.

On April 10 the general manager wrote a letter to the business agent of the street-car operating employees' union. In the letter he referred to the official figures of changes in the cost of living; he stated that his private investigations agreed with those figures; he mentioned the public reports of the company's unsatisfactory financial condition, but did not refer to the economies he planned to place in effect upon the system; he then stated his decision to make a 10% advance in the wages of all the company's employees. He ended the letter with a sentence to the effect that in giving this increase he was counting on the cooperation and help of the employees in efforts to eliminate inefficiencies and to

reduce costs, so that the company could continue to pay the increased rates of wages. The manager had multiple copies of the letter printed and posted on all the carn barn bulletin boards of the company for the information of the employees.

The general manager was surprised when the business agent of the union, a day later, made a vigorous attack upon the amount of the wage increase, declaring it inadequate and stating that a much larger increase would be demanded by the spokesman of the union.

From the viewpoint (*a*) of the company, (*b*) of the employees, (*c*) of the community, should the general manager have sought to negotiate with the union agent, or with the men individually?

3. Rochester Men's Clothing Industry

AGREEMENT BY EMPLOYERS' ASSOCIATION TO COOPERATE WITH LABOR UNION

In the spring of 1921 the local representatives of the Amalgamated Clothing Workers' Union asked the arbitrator in the Rochester men's clothing industry to require an employer to discharge an employee whom the union had dropped from its rolls for nonpayment of dues. The act of expulsion had not caused the delinquent workman to pay his dues to the union.

On April 1, 1919, this employer, together with practically all the leading men's clothing manufacturers of Rochester, New York, had entered into an agreement with the Amalgamated Clothing Workers' Union. The agreement established terms of employment in the Rochester clothing factories operated by the employers. In 1920 that agreement, with some minor changes, was renewed for two years. The agreement established arbitral machinery for the settlement of disputes. It did not require or establish either the preferential or the closed union shop.

In the main, the men's clothing industry in Rochester was carried on in large plants. The industry there had become known for the quality of its merchandise. Some of the Rochester clothing companies sold their products under their own brands and through exclusive agents. In 1890 a number of the clothing companies had organized an association, known as the Rochester Clothiers' Exchange, as a means for establishing the prestige of

Rochester as a men's clothing manufacturing center, and also as a means for acting upon labor questions.

With the exception of the cloth cutters, the men's clothing workers in Rochester did not form a successful union until 1918. When the industry originally was started in Rochester, the work force consisted largely of Germans, but subsequently Italian and Jewish immigrants outnumbered the German workers.

Prior to 1914 the one labor organization in the men's ready-made clothing industry was a national union known as the United Garment Workers of America. In 1913 the United Garment Workers alleged that Rochester clothing manufacturers were doing work for New York companies. The latter were then fighting a strike called by the United Garment Workers. Union organizers arrived in Rochester to enlist the support of workers there and to persuade them to cease working upon garments being made for manufacturers in New York City. After a brief and intensive organizing campaign a test strike was called at one plant, and the organizers found the workers' sentiment to be in favor of aggressive action. Presently, they called a strike in all shops in Rochester and demanded various concessions, among them recognition of the union. This strike lasted two months. Acts of violence occurred during the strike. Its settlement was negotiated by the union organizers and the employers, but the terms of the settlement did not recognize the union organization and it disintegrated shortly thereafter.

In 1914 the Amalgamated Clothing Workers' Union was formed by a group which seceded from the United Garment Workers of America. The Amalgamated Clothing Workers' Union since that time has been made up largely of Jews, Italians, and members of other South and East European immigrant races. The Amalgamated Clothing Workers' Union made rapid progress. Some of its members, from experiences in their native countries and knowledge of philosophies in vogue there, endorsed theories of solidarity and direct action which were in sharp contrast to doctrines of individualism and deliberative progress. Its leaders, on the other hand, and many other members were far-sighted and constructive. Although they endorsed militant unionism, they endeavored to adhere to the agreements which they signed.

In 1918 the Amalgamated Clothing Workers' Union deter-

mined to organize the Rochester clothing workers and sent a special organizer to that city. Two months after the organizer had begun his work in Rochester, two strikes for increases in wages occurred in separate Rochester plants. The strikes threatened to involve the entire Rochester market, which then was working to full capacity on army uniforms. The national president of the Amalgamated Clothing Workers' Union came to Rochester two days after the walkouts occurred. In negotiations with the employing companies, he agreed that the strikes should cease and that the matters in dispute should be arbitrated by disinterested parties to be appointed by the United States Army quartermasters' department, with which the companies had contracts for the production of the army uniforms.

The arbitrators appointed for this purpose rendered a decision of serious moment. Their decision covered all firms in the Rochester clothing industry that were engaged in contracts with the War Department, and not merely the two firms involved in the strikes. In this decision, made in order to standardize wage rates in the Rochester market, the arbitrators awarded a general wage increase of approximately 15%; they announced that overtime work should be paid for at one and one-half times regular rates; and they established a minimum wage of $12 a week. Of no less consequence than the general applicability of the award was the statement that "the arbitrators will continue to make further adjustments in wages in the direction of standardization." To carry out this intention the arbitrators chose a man to represent them as a resident arbiter. He was to continue the work of standardizing wages in the Rochester clothing market.

After approximately eight months of experience with the arbitral arrangement, the president of the Rochester Clothiers' Exchange stated in his annual report that the arrangement "emphasized the necessity of more adequate machinery for the administration of any agreement between the manufacturers and their employees, and the fact that it was impossible to negotiate effectively with the employees as an unorganized body." He went on to say, "If only as a matter of convenience, it is easier to deal with 1 man than with 10,000, and when the added weight of the discipline which a well-organized union wields among its members is thrown into the balance, the recognition of an employees' organization becomes imperative."

At the outset of 1919 the New York branch of the Amalgamated Clothing Workers' Union demanded a reduction in working hours per week to 44, and the organization stated that it purposed to establish that standard in every center of men's clothing manufacture. The Rochester manufacturers, anticipating the success of the union in this demand, announced that they would establish a 44-hour week on May 1. The workers regarded this announcement as a direct result of the strength of their organization, and they decided to use that strength to obtain the concession at an earlier date. The mass meeting at which the action was decided upon evidenced great enthusiasm, determination of purpose, and a sense of organized power. The Rochester manufacturers noted with some apprehension the spirit of unrest and new-found power among the unionists, and requested the president of the Amalgamated Clothing Workers' Union to come to Rochester for a series of conferences. The result of those conferences was the labor agreement of 1919. That agreement was renewed a year later with slight changes. The text of the 1920 agreement follows:

I. This agreement made between the members of the Clothiers' Exchange of Rochester, New York, as individuals acting through the said exchange as their representative, and the Amalgamated Clothing Workers of America shall become effective after ratification by the members of both parties, and the fact of such ratification shall be indicated by an exchange of notes between the president of the exchange and the president of the Amalgamated. The agreement shall continue in force until May 31, 1922.

II. The right of the workers in the industry to bargain collectively is agreed to and the Amalgamated Clothing Workers of America is recognized as the agency for collective dealing with the employees. The employees in every shop shall elect representatives to take up their cases with the management in the first instance. If the shop representative cannot agree with the management, then the union representative shall be called in. The employers shall appoint duly authorized representatives of the management, who shall be responsible for carrying into effect the terms and conditions of the agreement in their shops.

III. The power to hire shall remain with the employer, but in cases where discrimination on account of union membership is charged, the impartial chairman [Section VIII of agreement] shall have the right of review; and if facts are brought before the impartial chairman that appear to indicate that the labor policy of any house is calculated to undermine the union, he shall have the power to review that policy.

IV. The power to discharge and suspend employees remains with

the employer, but it is agreed that this power will be exercised with justice and due regard for the rights of the workers; and if any worker feels that he has been unjustly treated in the exercise of this power, he may appeal to the labor adjustment board hereinafter mentioned, which shall have the power of review in all such cases.

V. The right of the employer to make changes in shop management and methods of manufacturing is recognized; such changes to be made without loss to the employees directly affected.

VI. There shall be no strikes, lockouts, or stoppages in any shop covered by this agreement.

VII. The principle of equal division of work is recognized, and during slack seasons work shall be divided as far as practicable among all the workers in the shop.

VIII. The administration of this agreement is vested in a labor adjustment board consisting of representatives of the employers and of representatives of the workmen, together with an impartial chairman selected by both parties. The representatives of the employers and the representatives of the workmen upon this board shall have an equal vote, regardless of the number of representatives of either side, and in case of a tie vote, the impartial chairman shall cast the decisive vote. All disputes or differences over questions arising under this agreement which the parties hereto are unable to adjust between themselves shall be referred to the labor adjustment board for adjustment or arbitration. This board shall have full and final jurisdiction over all such questions and its decisions shall be conclusive, except as may be otherwise provided by agreement of the parties hereto. Except where the board itself shall otherwise determine, the chairman of the board shall be authorized to take original jurisdiction of all cases and controversies arising under the agreement, and to adjust or decide them in accordance with rules of practice and procedure established by the board. Decisions of the chairman shall be binding on both parties. . . . .

IX. The board shall have authority to make such rules, regulations, and supplementary arrangements not inconsistent with this agreement as may be necessary to carry into effect the principles of this agreement, or to apply these principles to new questions whenever they arise. It may also define, describe, and limit the penalties to be imposed for violation of any of the provisions of this agreement.

X. The expenses of the labor adjustment board shall be borne equally by both parties to this agreement.

XI. Upon the petition of either party the labor adjustment board shall have the power to determine whether important changes have taken place in the clothing industry, or in industrial conditions generally, which warrant changes in general wage levels or in hours of work; and if it is decided that such changes are warranted, negotiations shall begin between the parties hereto. In the event of a disagreement, the question shall be submitted to arbitration.

XII. Upon the petition of either party, any adjustment of wages of individuals or sections that may be necessary in order to remove serious and unjust inequalities in pay may be made at any time during the life of this agreement, provided that no request for such adjustment shall be heard by the impartial chairman until he has been authorized to consider it by the labor adjustment board. A decision by the impartial chairman in such a matter shall take effect and operate during and after the first full week after the date of the decision unless the parties otherwise agree.

XIII. A minimum wage for all beginners in the industry and a probationary period during which the employer shall be free to discharge such help without question shall be fixed by the labor adjustment board.

XIV. The regular hours of work shall be 44 per week, to be worked 8 hours on the 5 days preceding Saturday and 4 hours on Saturday.

XV. For work done in excess of the regular number of hours per day, overtime shall be paid at the rate of time and one-half.

XVI. The labor adjustment board is authorized to exercise sanitary control over shops covered by this agreement, and it shall have authority to make regulations designed to protect the health and safety of the workers in the shops.

XVII. It is agreed that homework shall be abolished and the labor adjustment board shall investigate and work out procedure to this end.

Early in 1921 the issue of this case arose. The union, through the impartial chairman of the Labor Adjustment Board, asked one firm to suspend a man from employment until he met his financial obligations to the labor organization. The union previously had suspended the man from its membership. The union also had requested the employer to suspend the worker from employment, but the employer had refused to do so. The employer said that he had hired the worker without regard to union affiliations, and that the agreement did not provide for the closed shop nor did it require him to discharge an employee at the request of the union.

This case was argued during a period of business depression. The incident occurred in the middle of the then current union agreement. An election of local union officials was taking place. Moreover, the union was trying to collect a special assessment for the benefit of its New York members on strike. The New York strike was the result of the initiative of the employers there who had demanded more favorable terms from the union in December, 1920. The union said that the New York employers wished to

destroy it, and the union determined to fight the employers' demands with all the power at its command.

The rules of the Amalgamated Clothing Workers' Union regarding withdrawal and reinstatement were substantially as follows:

Members employed must pay dues monthly, and no member should be permitted to work on the first day of the month unless dues are paid for the previous month. Members three months in arrears shall stand suspended and members six months in arrears shall be dropped from the roll.

Any member dropped from the roll can be reinstated only by paying the regular initiation fee, together with all the money due the organization at the time his name was dropped from the roll.

Any member desiring to leave the country or quit the trade shall be allowed to withdraw from membership by paying all debts to date of withdrawal, surrender of his membership book or card, and written notice of his withdrawal to the local union. The surrendered book or card shall be sent to the general secretary.

No person who has been expelled, suspended, or stricken from the roll or rejected by any local union shall be eligible for membership until all matters are settled to the satisfaction of the local union having the grievance against the person.

A year earlier, about the time the renewal of the 1919 agreement was under discussion by the union and the employer groups, a similar request had been made by the union. In that case, referred to as Docket No. 149, the union had imposed no direct disciplinary measure, but had asked the impartial chairman to require the employer to discharge the delinquent. This the impartial chairman had refused to do.

In the present case, dealing with the union's request for employer assistance in the collection of dues, the impartial chairman ruled (May 26, 1921):

It appears that the man in question joined the union shortly before he left the employ of one of the exchange houses[1] to engage in business for himself. After about a year and a half he returned to work in a contract shop[2] and the union then asked him to pay back dues which it claimed he owed. He refused to do this, and he says he quit the job of his own accord while the union representatives contend that he was discharged for refusing to pay dues. Later he worked at another

[1] "Exchange house": Firm which was a member of the employers' association and a party to this labor agreement.

[2] "Contract shop": A shop of a manufacturing subcontractor in the clothing industry.

house for about five days and was discharged when he again refused to pay his back dues.

Section IX of the agreement provides that the labor adjustment board may define, describe, and limit the penalties imposed for violation of any of the provisions of the agreement. It is understood between the parties at the time the agreement was signed that this provision should cover the attempts of individual members to evade the responsibilities which the acceptance of the agreement imposed on every individual covered by the agreement. The union is required by Section X of the agreement to pay half of the expenses incident to by administration and these payments must be made out of dues paid to the membership covered by the agreement. The dues are the taxes required to maintain the governmental agencies for the industry set up by the agreement and any individual in whose behalf the agreement was signed who avoids the payment of the tax is violating an obligation assumed by him when the membership of the union voted to accept the agreement.

In case No. 149 it was held "That the union must have power to discipline its members. If it cannot do that, then it cannot force them to live up to agreements made by the union with the employers. However, in meting out discipline to its members the union must do it according to the laws of its own organization. It can fine them, reprimand them, suspend or expel them, and impose any other penalty authorized by the unions' constitution and by-laws which they agreed to obey. But to make suspension by the employer a penalty imposed by the union, is going beyond the union's power of discipline and asking the employer to act in the union's place."

In that case the union had not suspended or expelled the member, but instead asked the employer to discharge the man as a measure provided in its own constitution and by-laws for disciplining its members. In the present case, however, all efforts have been made by the union to mete out discipline according to the laws of the union, and the member had been suspended.

The question now arises: If the union attempts to discipline a member for failing to meet obligations incident to the agreement and he refuses to accept the discipline, so that the union is compelled to suspend or expel him, can he continue to work in a shop covered by the agreement, or does the agreement require him to accept the discipline of his organization?

If the union had not bound itself by the agreement to engage in no stoppages, its members would be free to refuse to work with any one who was suspended or expelled from the organization according to its legitimate rules. This would be the next step taken by the organization under its rules for disciplining members after one of them had been suspended or expelled. At this point, however, the agreement interferes and takes away the disciplinary power that the organization had in

refusing to work with a member who has been expelled. The agreement prohibits the members from stopping work to enforce its discipline.

Since the agreement ties the hands of the union in this respect it must afford the organization a legal method of enforcing its just disciplinary measures which will be as effective as the refusal of its members to work with an expelled member. The adjustment machinery must provide a place in court where the union can take up a grievance of this kind instead of engaging in a stoppage. Unless such legal method of enforcing disciplinary rules is provided, the agreement would have the effect of weakening the union, members could defy the organization with impunity, and the attempts of the labor adjustment board to hold the union responsible for compelling its members to live up to the provisions of the agreement and to the decisions of the impartial chairman would be futile.

The rules adopted by the labor adjustment board for handling all cases arising under the agreement must therefore be held to apply to cases of this character also. Whether a member is suspended by the union for nonpayment of dues or for violation of the agreement or a decision, the procedure should be the same. The union may file a complaint with the employer that the member has been so suspended, and if the suspension was regular and not in violation of the agreement, it is the duty of the labor manager to suspend the member from work until he has obeyed the proper disciplinary measures imposed on him. If the labor manager has reason to feel that the disciplinary action taken by the union has not been regular in accordance with its own written rules or has been in violation of the agreement, then the labor manager may refuse to suspend the worker until the impartial chairman has reviewed the disciplinary action taken and finds it to be legal according to the union rules and in conformity with the agreement existing between the employers and the union.

In the present case, the suspended member has failed to appear before the union membership committee that handles such cases and has refused to agree to pay back dues. Under the circumstances the union could do nothing else but suspend him. This action of the union was wholly legal and proper, and under the circumstances, it must be held that the employer must suspend the member from work until he arranges some settlement of his arrears in dues with his organization. The union, on the other hand, ought to be lenient about insisting on full payment of back dues because the man was out of the industry for a considerable time and it is apparent that he did not understand the union rules about getting a withdrawal card. A proper regard for the rules of his organization on the part of the man and a proper allowance for the ignorance of the man on the part of the union is all that is needed to settle this case.

Was it to the advantage of the local clothing industry to have all competent employees remain in good standing with the union?

4. Dorchy *v.* State of Kansas[1]

THE RIGHT TO STRIKE

Mr. Justice Brandeis delivered the opinion of the court.

Section 17 of the Court of Industrial Relations Act, Laws of Kansas Special Session 1920, c. 29, while reserving to the individual employee the right to quit his employment at any time, makes it unlawful to conspire "to induce others to quit their employment for the purpose and with the intent to hinder, delay, limit or suspend the operation of" mining. Section 19 makes it a felony for an officer of a labor union willfully to use the power or influence incident to his office to induce another person to violate any provision of the act. Dorchy was prosecuted criminally for violating Section 19. The jury found him guilty through inducing a violation of Section 17; the trial court sentenced him to fine and imprisonment, and its judgment was affirmed by the Supreme Court of the State.[2] Dorchy duly claimed in both state courts that Section 19, as applied, was void because it prohibits strikes, and that to do so is a denial of the liberty guaranteed by the Fourteenth Amendment. Because this claim was denied, the case is here under Section 237 of the Judicial Code as amended (Comp. St. Section 1214).

. . . . . .

The question requiring decision is not, however, the broad one whether the Legislature has power to prohibit strikes. It is whether the prohibition of Section 19 is unconstitutional as here applied.[3] The special facts out of which the strike arose must therefore be considered.

Some years prior to February 3, 1921, the George H. Mackie Fuel Company had operated a coal mine in Kansas. Its employees were members of District No. 14, United Mine Workers of America. On that day, Howat, as president, and Dorchy, as vice-president, of the union, purporting to act under the direction of its executive board, called a strike. So fas as appears, there was no trade dispute. There had been no controversy between the company and the union over wages, hours, or conditions of labor; over discipline or the discharge of an employee; concerning the observance of rules; or over the employment of nonunion labor. Nor was the strike order as a sympathetic one in aid of others engaged in any such controversy. The order was made and the strike was called to compel the company to pay a claim of one Mishmash for $180. The men were told this; and they were instructed not to return to work until they should be duly advised that the claim had been paid. The strike order asserted that

[1] Supreme Court of the United States. Argued October 7, 1926. Decided October 25, 1926. 47 Supreme Court Reporter 86.

[2] *Kansas* v. *Howat*, 112 Kan. 235, 210 p. 352.

[3] *Dahnke-Walker Milling Co.* v. *Bondurant*, 257 U. S. 282, 289, 42 S. Ct. 106, 66 L. Ed. 239.

the claim had "been settled by the joint board of miners and operators but (that) the company refuses . . . . to pay Brother Mishmash any part of the money that is due him." There was, however, no evidence that the claim had been submitted to arbitration, nor of any contract requiring that it should be. The claim was disputed. It had been pending nearly two years. So far as appears, Mishmash was not in the company's employ at the time of the strike order. The men went out in obedience to the strike order, and they did not return to work until after the claim was paid, pursuant to an order of the Court of Industrial Relations. While the men were out on strike, this criminal proceeding was begun.

Besides these facts, which appear by the bill of exceptions, the State presents for our consideration further facts which appear by the record in *Kansas* v. *Howat,* 109 Kan. 376, 198 P. 686, 25 A. L. R. 1210; *Id.,* 258 U. S. 181, 42 S. Ct. 277, 66 L. Ed. 550, one of the cases referred to by the Supreme Court of Kansas in its first opinion in the case at bar. These show that Dorchy called this strike in violation of an injunction issued by the state court, and that the particular controversy with Mishmash arose in this way. Under the contract between the company and the union, the rate of pay for employees under 19 was $3.65 a day and for those over 19 the rate was $5. Mishmash had been paid at the lower rate from August 31, 1917, to March 22, 1918, without protest. On that day he first demanded pay at the higher rate, and claimed back pay from August 31, 1917, at the higher rate. His contention was that he had been born August 31, 1898. The company paid him, currently, at the higher rate beginning April 1, 1918. It refused him the back pay, on the ground that he was in fact less than 19 years old. One entry in the Mishmash family Bible gave August 31, 1898, as the date of his birth; another August 31, 1899. Hence the dispute. These additional facts were not put in evidence in the case at bar. *Kansas* v. *Howat,* 109 Kan. 376, 198 P. 686, 25 A. L. R. 1210, was a wholly independent proceeding. Mere reference to it by the court as a controlling decision did not incorporate its record into that of the case at bar.[1] And it does not appear that the court treated these facts as matters of which it took judicial notice. We must dispose of the case upon the facts set forth in the bill of exceptions.

The right to carry on business—be it called liberty or property—has value. To interfere with this right without just cause is unlawful. The fact that the injury was inflicted by a strike is sometimes a justification. But a strike may be illegal because of its purpose, however orderly the manner in which it is conducted. To collect a stale claim due to a fellow member of the union who was formerly employed in the business is not a permissible purpose. In the absence of a valid agreement to the contrary, each party to a disputed claim may insist

[1] See *Pacific R. Co.* v. *Missouri Pacific Ry. Co.,* 111 U. S. 505, 517, 518, 4 S. Ct. 583, 28 L. Ed. 498.

that it be determined only by a court.[1] To enforce payment by a strike is clearly coercion. The Legislature may make such action punishable criminally, as extortion or otherwise.[2] And it may subject to punishment him who uses the power or influence incident to his office in a union to order the strike. Neither the common law, nor the Fourteenth Amendment, confers the absolute right to strike.[3]

Affirmed.

Are there any conditions under which the right to strike should be upheld?

5. Mann Company

PLACING UNION LABEL ON PRODUCT

The Mann Company, which manufactured shirts under a well-known brand, was an old established firm. The company had always put its product upon a quality basis and had continually sought ways of improving its shirts. The company had several factories located in different towns, each of which produced a different type or grade of shirt. With one exception, all of the factories had from the beginning been conducted on the open-shop basis.

The salesmen of the Mann Company had insisted that the work shirt manufactured under the company's brand should bear the union label. They argued that sales of this shirt would be greatly increased thereby. Though the management was opposed to unionization of its factories, it finally submitted to the request and unionized the factory which made the work shirts. In turn, the company bought from the union, at one cent apiece, labels which indicated to the trade that the product was union made.

The change of the factory from the open shop to the closed shop meant no alterations in factory operation. The working conditions and the wages paid were already equal to those required by the union. It was simply a matter of having the employees join that organization.

[1] Compare *Guaranty Trust Co.* v. *Green Cove R. R.*, 139 U. S. 137, 143, 11 S. Ct. 512, 35 L. Ed. 116; *Red Cross Line* v. *Atlantic Fruit Co.*, 264 U. S. 109, 44 S. Ct. 274, 68 L. Ed. 582.

[2] Compare *People* v. *Barondess*, 16 N. Y. 436, 61 Hun. 571; *Id.*, 133 N. Y. 649, 31 N. E. 240.

[3] Compare *Aikens* v. *Wisconsin*, 195 U. S. 194, 204, 205, 25 S. Ct. 3, 49 L. Ed. 154.

The company operated for a year under the union arrangement with success. Sales of work shirts bearing the union label increased, though not to so large an extent as was anticipated. Relations with the union and with the employees were satisfactory. At the end of the year an officer of the union visited the president of the firm, explaining that objections to the Mann shirt bearing the union label had been raised in the New York market. These objections came in part from union employers in the New York district, and in part from New York operatives. The complaints were based on the belief that the Mann Company was operating under an agreement with the union which gave the firm an advantage over the New York manufacturers. The latter asked that the same rules be applied to the Mann Company by the union as applied to them. These rules in part governed the method in which the shirts were manufactured, such as the manner of sewing a strengthening piece across the shoulders and the finishing of seams. The union representative stated that unless the president saw fit to make the changes in pattern required, the union would be compelled to remove the right to sew the label on the Mann shirts. The management felt that the changes demanded would materially decrease the strength and wearing qualities of the shirts.

Should the company have complied with the union's demands?

XXIX

AGENCIES FOR INDUSTRIAL PEACE

Black, 735-739; Edie, 417-441; Ely, 454-489; Fairchild, II, 511-534, 569-622; Gide, 613-648; Marshall, 710-722; Rufener, 412-441; Seager, 598-656; Seligman, 443-448, 643-668; Taussig, II, 318-371; Turner, 36-53.

1. Langley Company

workmen's compensation act

The Langley Company, which carried on business in an important Massachusetts city and its suburbs, used over 150 trucks and wagons to deliver merchandise to its customers. The drivers and their helpers had to carry heavy loads, and the risks of personal injury were large. It was necessary to pay high accident liability insurance rates in spite of the fact that all possible safety precautions were used. In July, 1912, a workmen's compensation law went into effect in Massachusetts. The question, therefore, arose how the Langley Company should carry the additional burden imposed by this legislation.

The Massachusetts workmen's compensation law covered all private employments in the usual course of an employer's business except masters or seamen on vessels in foreign or interstate commerce. It covered personal injuries arising out of, and in the course of, employment unless due to serious and willful misconduct. "Injury" was construed to include occupational diseases. The maximum compensation for total disability, partial disability, or death was $4,000. If an accident was attributable to willful misconduct on the part of the employer, the compensation was doubled. Insurers under the law had to provide reasonable and adequate medical aid.

Employers who elected to follow the recommendations in the act had to take out compensation insurance with authorized insurance companies. Although the act did not compel employers to insure, Section 66 provided that:

In an action to recover damages for personal injury sustained by an employee in the course of his employment, or for death resulting from personal injury so sustained, it shall not be a defense:

1. That the employee was negligent;
2. That the injury was caused by the negligence of a fellow employee;
3. That the employee had assumed the risk of the injury.

Section 67 provided that:

The preceding section shall not apply to actions to recover damages for personal injuries sustained by domestic servants and farm laborers, nor to actions for such injuries received by employees of an insured person.

This provision was inserted to induce employers to take out insurance. Approximately 91% of the Massachusetts employers were insured under the act in 1924.

Prior to the passage of this statute, a workman injured in the performance of work could bring suit against the employer to recover an amount proportionate to the injury suffered. Unless the employer could prove one of the three defenses listed above, he usually was forced to pay to the workman whatever amount the jury found to be a fair measure of the injury. The new law gave the employer two alternatives: to insure his company's risk with a recognized insurance company, or, not to accept the compensation features of the act. If the latter policy were followed, however, the employer forfeited his right to the common law defenses of contributory negligence, fellow servants' fault, and assumption of risks, unless the employee on being hired elected not to accept the benefits of the Workmen's Compensation Act, when the employer's common law defenses remained intact.

The chief advantage of insuring with an authorized insurance company was that all liabilities of the company under the act were covered fully. There was no possibility that an award by a sympathetic jury might cause a loss to the company. An insurance company, because of its diversified risks, could stand the loss of a series of accidents better than any single company.

The insurance companies maintained that to insure with them was to increase the good will of the employees toward the employer, because any claims for compensation would be brought against the insurance company, and if any disagreement

occurred there would be no ill feeling between the employee and employer. No charge of intimidation, furthermore, such as threat of discharge, could be brought against an employer who insured his risk with an insurance company. For a period of years, however, the manager of the Langley Company had built up a spirit of good will and cooperation in his organization. He maintained that this would be preserved more successfully if compensation were adjusted within the company.

The manager believed that the loss to his company from actual payments of compensation would not be so great as the premiums required by insurance companies. The Langley Company did safety work among its employees which reduced its percentage of accidents below the average of all companies in the same class on which the insurance companies computed their premiums.

A firm of lawyers who specialized in cases arising under the Workmen's Compensation Act could be retained for a reasonable annual fee. Special attorneys would go to the injured employee as soon after the accident occurred as possible and persuade him to sign a release. In return for this release the company guaranteed to pay the employee his regular weekly wages until he was able to work again. If the injury were serious, the lawyers attempted to make a fair settlement out of court. Under such an arrangement it was possible that someone not connected with the company might persuade an employee to demand his rights under the common law and sue the company for a large sum of money. The manager, however, thought that the good will of the employees toward the company, the prospect of regular weekly wages without any waiting period, and the payment of doctor's bills during a period of incapacity would be sufficient to influence an employee to accept the company's offer. The manager recognized, however, that from time to time cases would arise which would go to court, and awards for excessive amounts might be granted to employees. As a result of experience he did not expect this to occur oftener than once in three or four years. The manager estimated that the cost of nonacceptance of the benefits offered in the workmen's compensation law over a period of years would be less than the premiums of any insurance company for the same period.

The manager of the company expected that after the law had

been in effect a few years the amounts awarded by the state board of administration for injuries would increase and that the waiting period before compensation payments began would decrease. Then the insurance rates would increase to cover these changes.

What should the company have decided?

2. Simplex Wire and Cable Company

Plan for sharing profits with employees

In 1926 the Simplex Wire and Cable Company, manufacturer in Cambridge, Massachusetts, made the twenty-fifth consecutive annual payment to employees under its profit-sharing plan. The company shortly thereafter reviewed its experience with, and appraised the merits of, the profit-sharing experiment.

The plan had been established primarily to enlist the interest of the workmen in the company's business. A minor aim had been to induce employees to remain in the company's organization. Because the plan was an experiment, with the possibility that its results might prove unsatisfactory or its provisions unsuited to the aims that the company had in mind, the directors had decided to reconsider the plan at the close of each year.

In the 25 years that the plan had been in effect, no important changes had been made in the chief provisions dealing with profit sharing. Supplementary benefits were added to the plan; its application was extended from the factory force to practically all employees; and additional rules were drawn to govern its operation as particular problems presented themselves.

Adoption of the plan first was announced at the beginning of 1901 by the president of the company at a mass meeting of the factory employees. The chief purpose of the plan was mentioned, and the speaker stated that the company was confident that the workmen, by exercising greater care and initiative, would earn the profits they were to receive under the arrangement. The president announced that the profit sharers were to receive a fixed percentage of the company's net profits, so that the amounts of their shares would vary directly with the company's profits. The percentage that had been decided upon was not announced since

the company was a private corporation and the directors were unwilling to make public any statement from which the amount of its profits could be determined. In order to give the workmen some idea of their probable shares under the plan, however, the president stated that the percentage, as fixed, justified the expectation that profit shares for 1901 would be at least 5% of profit sharers' wages for that year, provided the company's profits in that year were as large as those of the year preceding. The company paid its employees the rates of wages that were current in its locality.

Although the employees seemed to be pleased with the announcement and to believe that some advantage would come to them as a result of the profit-sharing plan, it was apparent that they viewed that advantage as far removed and that comparatively few seemed to understand the profit-sharing arrangement.

A year later, at another factory mass meeting, the plan was renewed for the year 1902. Even then many of the employees seemed to have no more than a vague notion of the plan. The executives were of the opinion that the company had realized benefits from the operation of the plan during the preceding year, although the benefits were not so great as it had been hoped they would be.

The payment of the first dividend, about March 1, 1902, however, had a pronounced effect. Thereafter, the results of the plan were judged by the executives to be satisfactory. No proposal to abandon the experiment was made after that time. The company officials made no attempt to judge the plan on the basis of figures. The president stated that it was impossible to show by figures that the extra efforts called forth by the plan were commensurate with the expense. The conclusions of the executives were based upon surveys and first-hand knowledge of the attitude of the profit sharers toward their duties and the company. The profit-sharing plan was mentioned in dealing with some cases of error or negligence; workmen were reminded that deficiencies on their part would reduce the amount payable to the group of profit sharers. The endorsement of the plan by the chief executives was deemed to have been a factor in its success. The president, who sponsored it, had been manager of the company's plant for many years.

Each year for four or five years after the plan was introduced, an announcement was made of its renewal at a factory mass meeting. Thereafter, however, employees at the beginning of each year were given a small booklet which contained the rules for the current year. When these booklets were distributed, a tentative list of profit sharers for the year was posted so that any employee not mentioned on the list could present, if he wished, a claim for inclusion under the plan. In 1906 the employees arranged a dinner to which they invited the general officers of the company, and a similar gathering was held each year thereafter. At each dinner the company's president reviewed the history of the company during the past year and told of its plans and of the business prospects for the year to come.

The chief development in the plan was its extension to members of the sales and office organizations. The company's executives, after a few years of experience with the plan, became convinced that the effectiveness of a profit-sharing plan in stimulating the interest of the different employees varied with the employees' ability to comprehend the indirect and deferred but, nevertheless, real effect of their individual efforts upon the profits of the entire organization. In harmony with this conclusion the company, in 1913, extended the plan to the clerical and sales forces at the main office, and a year later to employees at the branch offices. Each time the plan was extended to include additional employees, the company increased the percentage of profits to be allotted to profit sharers. The percentage increase in each case was proportionate to the increase in the aggregate of the participating pay roll, so that the shares of participants already in the plan were not decreased because of its broader application.

The percentage of the company's net earnings set aside for profit sharers was not reduced at any time in the period under review. Three increases in that percentage were made in addition to the adjustments made because of the broadening scope of the plan. In spite of these increases, the percentage that profit shares bore to wages had declined after 1917, as shown in Exhibit 1. That ratio change came about because increases in payroll totals between 1915 and 1925 were much greater than increases in net profits during the same time.

Exhibit 1

Amounts of, and Number of Profit Sharers Included in, Preliminary and Final Profit-Sharing Pay Rolls for Factory Force of Simplex Wire and Cable Company, Average Annual Wages of Profit Sharers, and Average Profit-Sharing Payments

Year	Profit-Sharing Pay Roll				Percentage of Final Profit-Sharing Pay Roll to Total Pay Roll	Average Annual Wage per Employee	Average Profit-Sharing Payment per Employee	Percentage of Average Profit-Sharing Payment to Average Annual Wage
	Amounts		Number of Profit Sharers					
	Preliminary*	Final	Preliminary	Final†				
1901	$ 36,500	$ 27,298.57	67	52	39.96	$ 524.97	$ 58.02	11.05
1902	47,600	38,030.87	91	71	45.98	535.65	79.99	15.00
1903	50,180	39,637.74	97	71	38.30	558.28	68.99	12.01
1904	56,030	40,729.95	103	78	40.10	522.18	38.76	7.42
1905	68,796	57,605.74	128	101	43.19	570.35	72.63	12.73
1906	78,411	66,595.37	141	116	40.39	574.10	105.92	18.45
1907	93,023	57,035.74	168	98	51.39	582.00	106.20	18.25
1908	79,230	64,222.10	134	116	55.68	553.64	54.09	9.77
1909	92,074	78,018.38	165	139	51.05	561.28	53.23	9.49
1910	100,420	81,386.05	172	139	41.09	585.51	61.52	10.51
1911	114,504	88,477.28	194	152	48.61	582.08	54.30	9.33
1912	113,880	96,456.22	178	156	44.16	618.31	61.75	11.40
1913	129,740	108,393.61	206	161	38.90	673.25	86.61	13.57
1914	156,312	122,959.63	245	194	56.50	633.81	64.56	10.19
1915	182,780	155,032.40	284	239	69.06	648.67	48.77	8.26
1916	180,336	167,291.20	260	200	51.51	836.46	129.91	15.53
1917	218,528	219,168.87	257	226	50.29	969.77	144.78	14.93
1918	240,119	267,183.62	298	238	50.48	1,122.62	86.62	7.716
1919	332,878	306,813.25	307	255	59.2	1,203.19	115.71	9.617
1920	411,320	396,763.36	317	255	56.6	1,555.93	128.46	8.256
1921	409,803	318,581.59	280	235	73.2	1,355.67	102.64	7.571
1922	354,714	327,348.59	282	236	59.8	1,387.07	78.63	5.669
1923	367,034	390,204.38	291	248	40.0	1,573.40	163.52	10.393
1924	489,896	469,736.09	361	326	51.5	1,440.91	125.58	8.715
1925	687,538	614,346.88	521	435	69.3	1,409.05	97.39	6.912
1926	676,620	.....	...	...	.....	.....	.....	.....

*Preliminary pay roll was computed at the beginning of each year for which profit shares were to be paid by multiplying by 52 the total normal weekly earnings of the employees on the preliminary pay roll; that number included all those employees who were eligible as profit sharers and who had been in the company's employ for at least one year prior to the year to which the preliminary pay roll applied.

†On the final pay roll for any year were included all those employees on the preliminary pay roll for the year who remained in the company's employ until the profit shares for the year were paid.

The average annual wage paid per employee during the five years from 1921 to 1925, inclusive, was more than twice as large as the average annual wage paid in the period from 1901 to 1912. From 1921 to 1925 competition met by the company was exceedingly keen. Although sales in that period were large, the percentage of net profit on sales was small. The pay roll varied almost directly with the value of sales, while the amount of the company's net profits did not.

Between 1901 and 1926 the factory force increased gradually to 600 persons. In 1926, approximately 10% of the factory employees were women. A number of nationalities were represented among the profit sharers. Skilled men were employed to maintain plant equipment in operating order. Some of the machine operatives were skilled and others were semiskilled. Unskilled workmen were employed chiefly as helpers. Wages amounted to from 10% to 15% of the amount of billed sales.

The provisions of the company's profit-sharing plan for 1926 follow:

PROFIT-SHARING RULES FOR 1926

Those Included

All employees except those specially excluded.

Preliminary List of Profit Sharers

This includes only those who have been continuously in our employ since January 1, 1925. (See list of factory names on bulletin board in driveway.)

Final List of Profit Sharers

This includes only those on the preliminary list who shall remain continuously in our employ until the dividend for 1926 is paid. Any one on the preliminary list who may be discharged, or who may leave our employ before the dividend is paid, will lose all share, even though he may be employed again later on, and his share will be divided among those remaining.

Profit-Sharing Dividend

We propose to divide among the profit sharers a definite percentage of the profits on our business for the year 1926, and this percentage is the same as for the year 1925.

The actual amount of money to be divided will depend entirely on the amount of our profits for 1926. Each profit sharer will share in proportion to the wages he receives during the year. Under no condition shall we be expected to pay any profit sharer more than 20% of his wages for the year.

The profit-sharing dividend will be paid on or about March 1, 1927.

Disability (Occupational)

In case of injury, a profit sharer shall be considered as having received his regular wages for such time as he receives compensation insurance, but not for more than 50 weeks.

Disability (Nonoccupational)

Disability of a factory profit sharer resulting from nonoccupational causes is covered by health insurance. All factory profit sharers are insured from January 1, 1926. Benefit begins on fourth day of disability, and continues for a period not exceeding 26 weeks. Occupational injury is covered from the fourth day of disability to the time when compensation insurance begins. Details of this insurance shall conform to the laws of the Commonwealth of Massachusetts.

Health Insurance Benefits

Optional weekly benefits, based on wage rates, are shown below.

Weekly Wage Rate*	Weekly Benefit
$15.00 under $20.00	$10.00
20.00 under 25.00	10.00 or 12.50
25.00 under 30.00	10.00, 12.50, or 15.00
30.00 and over	10.00, 12.50, 15.00, or 17.50

*Bonus shall not be included in weekly wage rate except to raise the rate to $15.

Health Insurance Cost

The cost of each factory profit sharer's health insurance will be deducted from his profit-sharing dividend payable March 1, 1927.

Weekly Benefit	Annual Cost of Insurance
$10.00	$11.00
12.50	13.75
15.00	16.50
17.50	19.25

Death Benefit

A death benefit of $1,000 is provided by us, without charge, for each factory profit sharer. In case of death this will be paid to the dependent elected by him and approved by us.

In case of death during 1926 of a profit sharer, not a member of the factory organization, a death benefit may be paid and deducted from the profit-sharing fund. The amount of this benefit shall not exceed the profit-sharing percentage last paid on his estimated wages for the whole year 1926, unless settlement be deferred until the next

profit-sharing distribution, in which case that percentage may be used.[1]

Layoffs

Any employee who may be laid off shall be considered as no longer in our employ unless he return to work within six weeks.

Leave of Absence

Leave of absence for more than six weeks shall be granted only to profit sharers, and only upon application approved by the president, treasurer, or factory manager.

Any employee absent because of sickness shall be considered as still in our employ for such period as we may deem reasonable.

Assignment of Wages

Receipt by us during 1926 of notice of assignment of wages will cause the individual concerned to lose one-third of his profits for the year.

Interpretation of Rules

Any doubtful case not clearly covered by these rules shall be referred to the factory committee[2] for decision.

[1] In the determination of the death benefit payable to a profit sharer not a member of the factory organization the plan permitted two options. The company selected that option which, in its judgment, would yield the estate of the deceased the larger payment. Under the first method of settlement the payment was not deferred; the deceased employee's actual earnings during the calendar year were supplemented by an estimate of what his or her earnings might have been for the balance of the year. To the total thus determined was applied the rate which the profit shares last paid bore to annual wages. The resulting product was the death benefit. Under the second method, settlement was deferred until the next profit-sharing distribution. In that event, the estimated annual wage determined as above participated on a par with employees' actual wages in the calculation and distribution of profit shares.

[2] Factory committee:

The factory committee shall consist of 15 members, of whom 5 shall be elected by ballot each year to serve for a term of 3 years.

Male profit sharers only shall be members of the committee. Membership shall be further restricted to those who have been profit sharers for the 3 years immediately preceding their election.

All factory profit sharers shall be entitled to vote, and each department shall elect its own representatives.

Representation by departments shall be as follows:

Weatherproof	3	Mills	1
Rent and power	2	Cable, tin and lead	2
Office	1	Twisting	2
Insulating	2	Testing	1
Vulcanizing	1		

One-half of all votes cast in a department shall be necessary for election.

When a second ballot is necessary there shall be only two candidates for each position to be filled. These candidates shall be those receiving the larger numbers of votes on the first ballot.

Any tie will be settled by drawing lots.

Any vacancy on the committee shall be filled at the next annual election by electing a member to serve for the unexpired term. No member shall be eligible for reelection while on the committee.

EXHIBIT 2

RATIO OF NUMBER OF EMPLOYEES ON FINAL PROFIT-SHARING PAY ROLL OF FACTORY FORCE OF SIMPLEX WIRE AND CABLE COMPANY TO NUMBER ON PRELIMINARY PROFIT-SHARING PAY ROLL

Year	Ratio	Year	Ratio
1901	77.6%	1914	79.2%
1902	78.0	1915	84.5
1903	70.2	1916	76.9
1904	75.7	1917	87.9
1905	78.9	1918	79.9
1906	82.3	1919	83.1
1907	58.3	1920	80.4
1908	86.5	1921	83.9
1909	84.2	1922	83.7
1910	80.8	1923	85.2
1911	78.3	1924	90.3
1912	87.6	1925	83.7
1913	78.2		

As there was some labor turnover in the 14 months which elapsed between the calculation of the preliminary profit-sharing pay roll and the calculation of the final profit-sharing pay roll, the former always exceeded the latter. Reduced employment during the year also had the same effect. These factors, which tended to reduce the final participating pay roll, had been offset to some extent at times by increases in wage rates and by large piecework production by profit sharers. Exhibit 2 shows, by years, for the factory force the number of employees on the final profit-sharing pay roll as compared with the number on the preliminary pay roll.

It had been decided to pay profit sharers' gains under the plan in cash because the executives thought the employees would experience maximum satisfaction from their shares in that way. The distribution of profit-sharing certificates, whatever the basis of return thereon, would not afford the employees as much satisfaction, it was thought, as the distribution of cash. The executives did not wish to dictate the manner in which the employees should spend their profit shares; the executives had not learned of many cases in which the payments had been spent to the employees' detriment. On the contrary, a large number of cases were known in which the payments had been saved or had been expended for household or personal capital.

The provisions concerning disability, sickness, and death benefits were parallel to and not a part of the profit-sharing plan. These benefits applied to profit sharers. The cost of health insurance was deducted from employees' profit shares in order to save the clerical expense of making the weekly deductions from the employees' wages.

The provision concerning occupational disability was adopted shortly after the Massachusetts workmen's compensation law became effective. The health insurance benefit was adopted in 1925.

Before adopting the health insurance plan the president of the company had the factory committee canvass the works organization. The committee reported approximately 74% of the organization to be in favor of the scheme. Upon that expression of opinion and the unanimous endorsement of the factory committee, the provisions were made effective.

The sliding scale of sickness benefits was specified by the insurance company to prevent malingering. Thus, an employee earning $15 was not permitted to subscribe for insurance providing benefits of $17.50 a week. Such a contribution would tempt the individual to feign illness. The company paid the group health insurance premium in advance and was reimbursed 14 months later by the deductions from the profit-sharing fund.

The factory committee was set up some years after the plan first was installed. The president of the company, who previously had decided questions which arose in the administration of the plan, thought that the employees whose shares were changed, even though slightly, by such rulings should decide upon cases of similar character thereafter. The factory committee's only designated duty was to decide cases not covered by the profit-sharing plan's rules, but the committee served upon occasions to advise company officials upon other matters of mutual interest to the company and the employees, such as shop regulations.

The layoff provision was adopted to settle with definiteness many claims which constantly tended to extend the period during which a person on the inactive list was to be regarded as "laid off." The leave of absence provision met the desires of foreign-born employees who wished to visit their native countries and also to retain their status as profit sharers.

The executives of the company were of the opinion that no special conditions existed in the company's plant or in its sales or office organization, which made the profit-sharing plan more applicable there than it would have been in other manufacturing organizations.

With regard to the frequent allegation that employees should not share in profits because they cannot be assessed to recoup losses, the president stated that under the company's profit-sharing plan the employees, in the event of unprofitable operations during any year, might have to sustain the loss of contingent income. Their gains from profit sharing were limited by the company's success. He thought, however, that under this plan the employees' shares in profits were not similar to those of holders of common stock.

Concerning the length of service required before an employee was eligible to share in profits, the criticism sometimes was advanced that new employees contributed to profits no less than did employees of long service. The president thought that this criticism applied to a profit-sharing plan intended to reward current effort, but not to the Simplex Wire and Cable Company's plan with its quite different objectives. The percentage of profit sharers had varied from 40% to 70%, depending upon fluctuations in the force, which reflected changes in the volume of orders.

In the president's opinion, some of the criticisms of profit sharing apparently were made by persons contrasting the practice with piecework payments. He did not regard profit sharing and piecework as comparable. The second type of compensation was an immediate return for a definite result agreed to in advance. This plan of profit sharing, on the other hand, was intended to improve the morale of an organization that already was giving good service. More specifically, the plan was intended to induce employees to prevent waste; to cause them to take a more active interest in the company; and to induce desirable employees to remain with the company.

1. Should profit sharing be made compulsory?

2. Would you have expected that prices of the company's products would have to be increased because of the additional payments made to the employees under the profit-sharing plan?

3. Thrasher Cotton Mills Company

SALE OF COMMON STOCK TO EMPLOYEES

The Thrasher Cotton Mills Company, which operated three mills for the production of cotton cloth, had 11,000 employees. In the spring of 1923 a committee of employees requested that the company allow workers to purchase common stock of the company under a plan of installment payments. The market price of the stock was about 96. The dividend rate was 6%, and dividends of at least 6% had been paid continuously since 1890. The company had an opportunity to secure a block of 5,000 shares at 91 from an associated company, and contemplated resale at the same price.

It was the policy of the company to comply with reasonable requests from employees whenever possible. Approximately 750 employees already had purchased the company's stock on the open market. Other employees desired to invest in the stock because they were familiar with the company and had confidence in its ability to pay dividends. They did not have sufficient funds, however, to make immediate payment, and sought the adoption of the installment plan because it allowed them gradually to acquire ownership of the stock.

The interest of employees in the company's prosperity was thought to be stimulated by ownership of stock. Although not every worker was expected to become a stockholder, those who purchased were likely to be the leaders and the most influential among their fellows. As stockholders they would realize that whatever was advantageous to the company, benefited them. It was desirable, furthermore, for the company to encourage among the employees a sense of importance as part owners of the corporation. Under this plan the Thrasher Cotton Mills Company could expect better cooperation in securing economy of operation and in readjusting wages. A reduction in labor turnover also was possible, because workers who owned shares were not likely to seek employment elsewhere.

The officers believed that the results of the sale of common stock to employees by several large companies, such as the United States Steel Corporation and the American Woolen Company, were satisfactory. The interest of employees in the prosperity of

those companies was said to have been strengthened by stock ownership.

Plans for sharing profits with employees had been rejected previously by the company because the workers might have looked upon such payments as an indication of a low level of wages. Employees generally preferred high wages to gratuities. Even the semblance of giving the latter would be avoided by the sale of common stock, because when employees became part owners of the company, they shared the earnings at the same rate as did the owners.

If the stock bought by employees were held as an investment and not sold when the price declined slightly, reduction in the market fluctuation of the stock was possible. A wider market for the stock was provided also, because employees were likely to purchase additional shares subsequently on the open market after they had formed the habit of saving. If employees found it necessary, on the other hand, to sell on the market at a price below 91, the discontent and resentment caused by such losses might defeat the purpose of the plan. It was suggested to the officers, furthermore, that the interests of employees were not well served by investments of savings in the company which furnished their livelihood. They were especially in need of income from savings when the company was not prosperous and when employment was uncertain. At such times, however, the market price of the stock was likely to be low, and dividends reduced.

It was probable that comparatively few workers could avail themselves of the opportunity presented by the plan, and hence the benefits to be derived by the company were limited. A frequent disadvantage of the sale of common stock at less than the market price was that employees might sell their rights to subscribe or dispose of the stock to individuals not employed by the company. A few companies avoided this difficulty by paying a bonus to those who held the stock for a specified period of years. Since it could be specified that the stock was not to be sold until it was purchased in full, installment payments extending for a year or more would prevent immediate disposal of stock. It could be stipulated that after an employee completed payments and became an outright owner of the shares, he would be justified in selling them when he desired. If restrictions on the right to

sell were imposed, the discriminations would remove employees from the class of holders of common stock.

Another plan suggested for eliminating risk of loss to employees from a decline in price was to create a special class of stock. This stock would not be negotiable and would be preferred as to dividends. A fixed minimum rate could be established which would equal the dividend rate on the common stock with a provision that it be raised to correspond with increases in the common stock rate. Thus employees would be assured of sharing profits equally with common stockholders without the risk of a serious decline in price. They would not be given voting power and would be unable to sell the stock except to the company at the price paid. This plan would have an advantage for the company in that the desired amount of stock could be issued and sold at any figure decided upon, regardless of the market price for common stock.

This suggestion was not adopted, because it would eliminate the advantages to be gained by the company from employee ownership of common stock. Unless risks were shared by employees, there was no incentive for them to cooperate with the management. The risk involved could be explained fully before agreements to purchase were made and no one was to be urged to buy the stock.

The officers recognized that employees' entire savings should not be subjected to risks in the company which supplied their chief means of livelihood. Since the probable subscription of each worker was only two or three shares, the investment would not constitute all his savings. Some employees, however, were not likely to save the amounts necessary for the purchase of stock unless the installment plan were offered.

The officers decided to purchase the block of 5,000 shares and to sell the stock to employees on installment terms. Employees could agree to purchase from one to five shares at $91 a share. If subscriptions to more than 5,000 shares were received, the company reserved the right to reduce the number of shares allotted in order to allow at least one share to each applicant. It was specified that $5 a share be paid within 5 weeks after date of announcement of the plan, with additional payments to be deducted from pay at the optional rate of either $1 or $2 a share each week. The company was owner of this stock

until full payment was received, but dividends declared were credited to the account of the purchaser. Interest at the rate of 5% a year on unpaid balances was charged quarterly. Employees were permitted to cancel purchase agreements at any time, and to recover the total amounts paid, less dividends. There were no transfer rights until the stock was paid in full. The following paragraph was contained in the announcement of the plan:

> The company is now paying 6% dividends, that is, $6 a year on each share of stock, but of course cannot guarantee the future rate or the future market price of the stock. All employees who become stockholders under this plan will, after receiving their stock, thus be on exactly the same basis as any other stockholders, with the same rights and benefits and the same risks.

In the 5 weeks which intervened between the announcement of the sale and the last day on which applications were accepted, the market price of the stock declined from $97 to $90, in accordance with a general downward movement in stock prices. In spite of that fact, however, 2,376 shares were purchased by 695 employees who formerly had owned no stock in the company. The officers realized that the offer had been made at an unfavorable time. Subscribers, however, did not cancel their commitments. The remaining stock was held in the treasury until employees should request another opportunity to purchase stock on installment payments.

1. Should the company have adopted a general policy of selling common stock to employees? If so, should the stock have been offered at or below prevailing market prices?

2. Would the same arguments hold in the case of a telephone company?

4. Western Clock Company

ADOPTION OF PENSION PLAN

In 1918, officials of the Western Clock Company discussed a proposal to adopt a pension and thrift plan.

The officials desired a pension plan that would assure to the employees receipt of whatever they had been led to expect, yet which would be sufficiently flexible to permit of modifications

necessitated by legislation, business prosperity or depression, and change in attitude towards pensions by employees or management. The officials objected to the noncontributory type of plan, as they wished employees to take a definite part in any thrift arrangement that might be adopted. They wished to develop a plan that would serve also to induce employees to save for old age.

The company wished to avoid the clause quite commonly found in pension plans which denies the employees any enforceable rights to pension benefits. The company did not want to announce a schedule of pension benefits and state at the same time, as do many plans, that it could cancel the arrangement at a later date. It was believed that a pension plan causes employees to build up hopes, that they attach little importance to a cancellation clause until that clause is enforced by a company, and that such an act incurs bitter ill will. The company preferred to endorse a plan only for one year at a time. Thus, the plan could be renewed from year to year and it would not be necessary at any time to violate any promise. The plan announced for any year would not be terminated before the end of that period. By thus making the plan flexible, the company hoped at the times of renewal in the future to make the terms of the pension plan even more liberal than they were at the outset. At the same time, endorsement for only a year safeguarded the company against undertaking a large future commitment which might become burdensome in case adverse conditions developed.

In 1918 the management of the Western Clock Company began a survey of existing pension plans. The management did not find any plan which met the standards of the company officials. The subject was taken up again in 1922, when a committee of 11 employees was appointed to work with the management to formulate a pension plan. This group also studied existing plans, but did not endorse any of those reviewed. The committee undertook to work out a new type of plan in line with the general principles approved by the officials. Several students of the pension problem were consulted, and considerable pioneer work was done by the committee. After this committee rendered its report, the committee was expanded to 61 members. This enlarged committee and the management examined the plan and approved it, and in December, 1923, the company offered it to those employees who

wished to join. Employees who wished to make detailed inquiry concerning the plan were referred to the committeemen who had participated in its preparation and review.

For practically 40 years the company had been able to give its employees continuous work. There had been no shutdowns or layoffs other than vacations during that period. The organization had grown from 81 employees in 1890 to 875 in 1910 and 2,700 in 1925. The company's plant was located at La Salle-Peru, Illinois, a community containing approximately 25,000 people. Most of these people were native-born Americans, but many of them were of German extraction. The company's output was above 20,000 watches and clocks daily, yet this large output was confined to 17 styles and models. Sixty per cent of the working force consisted of men, and 40% consisted of women. The approximate age of the average man worker was 25; of the average woman worker, 20. The labor turnover rate was approximately 18% a year.

After the pension plan was announced, individual schedules were prepared for all eligible employees. These schedules stated the company's contributions and the pension benefits ultimately realizable under the scheme. Employees then were invited to subscribe to the plan, and by April 1, 1924, 67% of the employees eligible to do so had subscribed.

Membership in the plan was restricted to employees who had completed at least two years' continuous service with the company. Membership was optional with eligible employees. Any eligible employee who chose to join authorized the company to deduct from his wages his payments as specified in the plan.

At the time of announcing the plan in December, 1923, the company stated the schedule of benefits that it would pay to employees who were members of the plan during 1924. The company also stated that each year it would announce the schedule of benefits for the following year. Because of this provision, the company was not likely to make a commitment regarding pensions which it could not fulfill. In any year, the company could enlarge, curtail, or discontinue its pension contribution. Employees could increase their regular weekly payments above the sum specified in the plan and thus increase their deferred incomes and pensions. The company, however, did not take such excess payments into account in calculating its pension contributions to

employees. The schedule of employee and employer contributions for 1926 is shown in Exhibit 1.

Each employee's minimum contribution under the plan varied with his wages, based on day rates or basic time rates. The company's contribution to an employee varied with the employee's income, length of service, and sex.

At the time the plan was adopted, pension income contracts with its employees were issued by the Western Clock Company. About a year later, arrangements were made with a large insurance company which thereafter issued the contracts in the form of annuity contracts.

The deferred incomes purchased in exchange for the employees' contributions were spoken of as "incomes"; the deferred incomes purchased by the company for the employees were referred to as "pensions." When an employee entered the plan, he received a certificate which contained an annuity table. From this table he could calculate in any year the amount of deferred income that he purchased with his savings. The company's contributions were evidenced by pension stamps which it purchased for cash from the insurance company. The stamps were issued each year to the employees and were affixed to their certificate books. Each stamp had substantially the legal significance of an

Exhibit 1

Employee and Company Contributions for 1926 under Western Clock Company Income and Pension Plan

Income Group	Employee Contribution (Per Year)	Company Contribution (1926)		
		Years of Service	Amount	
			Men	Women
$1,200 and less	$25.00	3–5	$ 5.00	$ 5.00
		6–10	10.00	10.00
		11–25	30.00	40.00
		26–over	50.00	60.00
$1,200–$1,800	37.50	3–5	7.50	7.50
		6–10	15.00	15.00
		11–25	45.00	60.00
		26–over	75.00	90.00
$1,800 and over	50.00	3–5	10.00	10.00
		6–10	20.00	20.00
		11–25	60.00	80.00
		26–over	100.00	120.00

annuity contract, and showed on its face the amount of income that would be paid by virtue of that stamp.

Employees' property rights in the deferred "incomes," that is, the annuities purchased by their own contributions, were absolute. A member of the plan could leave the company and still retain that right. The plan provided, however, that should the employee take the cash surrender value of his contract or assign it, the cash surrender value of the contribution made by the company would revert to the company, and the employee would gain no advantages therefrom.

The plan provided, furthermore, that if a member died, the premiums paid by him were to be refunded to a beneficiary whom he might designate. In case of death shortly after maturity of an annuity contract, the beneficiary received the amount paid in by the member, minus that portion of the annuity bought by the member which he had received prior to his death.

A member who left the company had three settlement options. The company's contributions, of course, ceased at that time. In the first place, the employee could continue to purchase paid-up annuities from the insurance company; secondly, the employee could discontinue his weekly payments, accept a paid-up annuity policy, purchasable with his past contributions, and retain the pension stamps awarded him by the company; in the third place, the employee could take the cash surrender value of the contract, but in that event he surrendered the rights under the pension stamps that had been affixed to his "income" certificate.

The plan did not provide for any specific retirement age. Although in general annuities were figured to commence at age 65, at the employee's option they could be calculated to commence at any age between 55 and 65. Nor did the plan specify that an employee had to resign when his annuity contracts matured. The company thought that retirement was an individual problem and that in case it was mutually satisfactory to the employee and the company for the employee to remain at work after attaining age 65, he should be permitted to do so.

When the plan was announced, an adjustment was made with each employee who had been in the service of the Western Clock Company for two years or longer. The company's contribution at that time was calculated retroactively in the case of each employee, so as to afford the employee such a pension as he would

have received if the plan had been in effect when he began work with the company. Employees who had had 25 years' service received outright the pension rights thus calculated. Employees who had had less than 25 years' service at the time were told that upon the completion of 25 years of service they, likewise, would receive pension rights calculated in the same way, provided they entered the pension plan and remained members thereof.

An indication of the pension that might accrue under the plan was furnished by a hypothetical case worked out by the company. Because of an increased scale of company contributions, the illustration was not applicable in 1926. A person who at 16 years of age entered the company's employ and who at 18 entered the plan, paying 50 cents a week until age 22, and thereafter 75 cents a week until age 65, and to whose payments the company added contributions at the rates scheduled for 1924, would receive at age 65 an annual income until death of $1,320; $550 thereof would have been purchased with his contributions, and $770 thereof would have been purchased with the company's contributions.[1]

Late in 1924, the company offered to purchase annuities for members of the plan during 1925. The scale of its contributions was slightly increased. At this time, as previously stated, arrangements were made with an insurance company, which was to underwrite the annuity contracts. A year later, the company renewed the plan for 1926.

Toward the end of 1925, the company added to the plan a sickness benefit feature. It amounted to 50% of earnings for a

[1] A large insurance company in 1925 announced a pension plan which provided for the purchase of paid-up annuities during the employee's active service. From a table in that company's plan the following abbreviated table was prepared.

AMOUNT OF MONTHLY ANNUITY COMMENCING AT AGE 65 FOR MALES AND 60 FOR FEMALES, WITH RETURN OF PREMIUM IN EVENT OF PRIOR DEATH, AND WITH ANNUITY PAYMENTS GUARANTEED FOR 10 YEARS, THAT CAN BE PURCHASED FOR $100

AGE OF EMPLOYEE WHEN PURCHASING ANNUITY	MONTHLY ANNUITY	
	Male	Female
20	$5.85	$3.37
25	4.65	2.70
30	3.68	2.16
35	2.90	1.73
40	2.28	1.38
45	1.78	1.11
50	1.39	.89
55	1.09	.72
60	.87	.59
65	.71	.....

specified number of weeks of disability. The number of weeks during which such benefits were payable varied with the length of the individual's continuous service with the company. This sickness benefit feature did not increase appreciably the percentage of eligible employees who were members of the pension plan. The increase in that percentage in the time between the announcement of the sickness benefit and the spring of 1926 was between 3% and 4%.

On July 31, 1926, 91% of the 1,735 persons eligible under the plan had subscribed to it. Of the number eligible, 1,038 were men and 697 were women. The percentage of men eligible to participate who had subscribed was 94%, and the percentage of women eligible who had subscribed was 88%. Company officials believed that the large percentage of subscribers to the plan resulted from its definiteness, its lack of risk, and the fact that the deferred income was the personal property of the employee, irrespective of his place of employment in the future.

Should the company have retained the option of deciding each year whether it would enlarge, curtail, or discontinue its pension plan?

5. Williamson Company

EMPLOYEE HOUSING POLICY

After its formation in 1880 the Williamson Company gradually provided between 600 and 700 tenements for its employees. Until 1916 the rentals charged had reimbursed the company for the money paid out for repairs and set aside for eventually replacing the buildings. The receipts from rentals, however, had not been large enough to yield the company any interest on its investment. In 1919 the company found that its tenement rentals were no longer adequate to pay for repairs, because of increased costs of materials and labor needed for such work. The company hesitated, however, to increase the rents.

The company had foreseen the necessity of acting upon this question but had postponed the repair of tenement property for several years. In 1919, however, a large number of houses were in much need of repair. Even if spread over a period of several years, that work would cause heavy outlays.

The Williamson Company was the only industrial enterprise

located in the small town of Dalton, in a north-central state. Most of the town's available supply of labor was employed by the Williamson Company. The surrounding region was both industrial and agricultural; within a radius of 25 miles were a city of 150,000 inhabitants, several large towns, and a rich farming country.

Most of the Williamson Company's houses were of the one- or two-tenement type. About 10% of the company's working force lived in the near-by city and traveled to and from work by electric cars. Most of the other employees lived in the company's houses, which had been grouped in the immediate vicinity of the mills because the company's many women employees had family responsibilities and wished to go home at noon. Few employees had built or purchased homes, chiefly because of the low rents charged by the company.

The company rented six-room single houses with furnaces, modern plumbing, and electric lighting, in a desirable part of the town, for between $3 and $4 a week. Rentals were somewhat lower for less attractive houses and locations.

Employees who were renting tenements from the company realized that the company was both paying their wages and receiving rent from them. This realization was heightened by the company's practice of deducting rentals from the employee's pay envelopes. The Williamson Company did not wish to adopt any rental policy which would react unfavorably on the tenants in their capacities as workmen.

The company's wages to mechanics equaled those current in the locality, and its wages to mill operatives were about the same as those current in the same industry. The executives thought that any upward revision in rentals, if made, should come at a time when a general advance in wage rates was in progress. They thought, however, that a gradual introduction of a new rental schedule would be accomplished with less difficulty than if a sweeping upward revision were imposed. In 1919 two increases in wages took place.

1. To what extent, if at all, should the company have revised its rental charges?

2. In general, is it desirable for industrial companies to rent or sell houses to their employees?

6. Chillicothe Paper Box Company

OUTPUT UNDER MINIMUM WAGE LAW

In July, 1920, the Chillicothe Paper Box Company had in its employ 568 girls as box-makers, who were paid on a piece-rate basis. About 150 of them were highly skilled; the remainder, however, possessed only medium skill. All these employees had been given a careful training for three months before being placed in the box-making department.

In July, a ruling was made by the wage board of the state, providing a minimum wage of $15.50 a week for female box-makers. The management of the Chillicothe Paper Box Company adopted the policy that each employee affected by the ruling should be required to attain a rate of production which would bring her earnings appreciably above the legal minimum. The purpose of this plan was to obviate the possibility of employees' becoming careless and depending in part upon the minimum wage ruling for their incomes.

At the time the decision was made, the average earnings of these girls were $20 a week. At the end of the first month's operations under the new requirement, the production records showed that 40 girls had not earned the legal minimum wage of $15.50 a week, although the average earnings remained at $20 a week.

The piece rates then in force were the result of studies which had been made with full allowance for working conditions, the various types of operators, the tools and materials, and the other elements necessary for the fixation of fair rates. The company believed that the rates in use were just. For this reason, the executives thought it inadvisable to increase the rates; the employees, consequently, were expected to bring their earnings well above the legal minimum wage by increased production rather than by a changed piece rate.

The employment manager of the company was called upon to outline a plan to insure that these employees should produce the output necessary to yield them earnings well above the minimum. To meet the situation, he secured permission from the state authorities to pay employees in the paper box department on a monthly instead of a weekly basis. The piecework in the department was somewhat irregular; since orders frequently were

not finished in one week, payments could not be made evenly, by weekly settlements. Once a month a list of all girls whose earnings averaged less than $15.50 a week during the month was prepared. The case of each girl on the list was made the subject of an interview with her divisional superintendent. Nearly all cases could be classified under one of three headings.

The first group consisted of girls who lacked sufficient training to attain the desired rate of production. In such cases, they were sent back to the training department in order to acquire further skill.

In the second classification were girls who had adequate training and were conscientious workers, but who were not suited to their work. In these instances they were transferred to departments to which they were better adapted.

Under the third heading were those who were unwilling to produce the output required and were relying upon the state ruling for maintaining their wages. It was explained to these employees that if they did not wish to change their attitude and endeavor to comply with the company's expectations, discharge would follow.

This method of meeting the situation was satisfactory. The number of girls failing to earn more than the minimum wage was reduced from 40 in July, 1920, to 4 in November of that year. After the plan was put into effect, only 5 employees were discharged for failing to meet the company's requirements during the period from July, 1920, to March, 1923.

Was the company justified in exacting a given amount of output in return for the wages it paid?

XXX

LABOR PARTICIPATION IN MANAGEMENT

Edie, 417-441, 780-793; Ely, 460-467; Fairchild, II, 595-622; Gide, 643-648; Taussig, II, 335-351.

1. Alden Steel Company

WAGE NEGOTIATIONS WITH PLANT ASSEMBLY

Early in May, 1921, when the United States Steel Corporation announced a 20% wage reduction, the Alden Steel Company made a similar reduction. In the summer of 1921, the management and employee representatives of the plant assembly of the Alden Steel Company discussed the expediency of a further reduction in wages. The company had an understanding with its employees not to adjust wages more frequently than once in six months.

Men employed by the Alden Steel Company in departments operating continuously worked in eight-hour shifts, whereas corresponding employees of the United States Steel Corporation and other large steel companies worked in twelve-hour shifts. Men working in shifts were known as "turn men."

The steel business had undergone drastic curtailment of operations since 1920. Despite price concessions, orders had been placed for only a small fraction of the industry's capacity.

Changes in prices of iron and steel during this period are given in Exhibit 1.

The wage reductions of the United States Steel Corporation and the Alden Steel Company followed reductions by many other steel companies. On January 16, 1921, one large independent company had cut wages in the several grades of labor by from 10% to 20%. A little later the rate for common labor in several mid-western plants had been reduced from 46 cents to 38 cents an hour. Some eastern companies were paying this grade of labor 30 cents and 33 cents an hour with no increase in the rate for

EXHIBIT 1

COMPOSITE PRICES OF IRON AND STEEL, JANUARY, 1920, TO AUGUST, 1921*

Month	Pig Iron (Dollars per Gross Ton)		Finished Steel (Cents per Pound)	
	1920	1921	1920	1921
January	39.08	31.18	3.158	3.057
February	42.35	28.45	3.486	2.918
March	42.17	25.18	3.743	2.764
April	42.93	23.73	3.842	2.737
May	43.64	22.78	3.804	2.764
June	44.09	21.73	3.756	2.643
July	45.44	20.22	3.885	2.455
August	47.38	....	3.967	....
September	47.83	....	3.956	....
October	45.05	....	3.81	....
November	38.65	....	3.566	....
December	34.51	....	3.114	....

* Published subsequently in the *Iron Age*, January 5, 1922, p. 60.

overtime work. On February 15, 1921, a number of companies had reduced wages for common labor from 46 cents to 37 cents an hour but had retained the eight-hour basic day with time and one-half rates for overtime work. In a majority of cases provisions for overtime rates possessed slight significance, since eight-hour rather than twelve-hour shifts were used in order to afford employment to more men. On March 8, 1921, the Rainey Company, a subsidiary of the United States Steel Corporation and a large coke and coal producer, had cut wages 15%, and about a month later a number of independent coke producers had cut wages in the various grades of labor by from 22% to 33%. The executives of the iron and steel industries knew of these adjustments, since the latter were large consumers of coke and in some instances owners of coal and coke companies.

The Alden Steel Company in May had asked its employees to accept the 20% cut through the plant assembly, which had been established some months before. The plant assembly consisted of 13 representatives of the employees and an equal number of management representatives. The chairman, who was the company's advisor on industrial relations problems, did not have a vote. Each employee representative had approximately 100 constituents. At its meetings the assembly had discussed the trends of business, wages, the cost of living, and production schedules.

It also had dealt with working conditions and personal grievances, and had taken over the administration of certain employee benefit activities.

At a meeting of the plant assembly in June, 1921, one management member discussed at some length current wage levels, orders for new business, prices, and tonnage output in various steel companies. He also referred to the level of freight rates and to the cost of living. In concluding his remarks he said:

I would like to hear an expression from the employees here. Can you suggest anything to do under the circumstances? We have been making stock here that is unsold and is now on our hands at a value of several hundred thousand dollars. Some of the steel now being marketed is sold at less than our cost of production. We have kept on producing, hoping that demand would pick up and hoping to maintain our organization, and it looks rather doubtful if we can keep the thing up.

A neighbor of ours is selling more of its capacity than we are because of lower prices, and this is true because it pays lower wages.

For this reason I think we should all do some sound thinking as to whether it wouldn't be a better thing for the employees and for the company to consider a further wage readjustment at an early date. Although it has been a regular policy of the company not to adjust wages more frequently than once in six months, these are exceptional times. We are looking forward to the keenest competition, which will make every company fight to retain—not increase but just retain—the *share* of business that it has been receiving in the past.

CHAIRMAN: Are there any comments?

MATTISON (E)[1]: As I see it there is little discussion that the employee representatives have to contribute. We have got to accept the inevitable. We will make any sacrifice if it stimulates business and gets our fellows back to work. I know several of them who have sold their automobiles. They cannot even buy gas to run them.

KINGSBURY (M): Some of our neighboring steel plants have made two cuts in wages and have a labor cost 20% to 25% less than ours.

MATTISON (E): I know myself that they made two cuts.

KINGSBURY (M): On account of the long-standing policy of the company I believe the officials would hesitate to suggest another wage cut within six months of the last one, but if the employee representatives would come forward with a proposition and it could be put into effect, the amount of operation here could be maintained, and I am willing to stake my guess that it could be increased before the end of six months, so that the men would not

[1] (E) signifies employee representative; (M) signifies management representative.

lose any through the adjustment. Here in the manufacturing end we have got to get out our product at a cost that will enable our sales department to obtain orders.

MATTISON (E): The employee representatives ought not take it upon themselves here to make any suggestion of that character. We must discuss the subject with the men in the plant. It's a pretty tough proposition for a man to come out and say he will accept a 10% or a 15% cut even if he is working full time. A lot of our fellows are getting less than $150 a month now, and they are paying $65 for rent alone, leaving them about the same amount of money or a bit more to buy food, clothes, and a little pleasure. If you ask them, "Will you accept a 10% cut in order to get the rest of the boys back to work?" they will say, "We cannot do it, we cannot meet expenses as it is."

KINGSBURY (M): Suppose that we laid off entirely?

MATTISON (E): They do not figure that way.

KINGSBURY (M): There are a lot of similar men that have been laid off. What about the men who are working only two days a week?

MATTISON (E): We have a lot of sympathy for them.

KINGSBURY (M): There are a lot of fellows who will work on jobs that they are not accustomed to for one-half of what they get on their regular jobs, but who will not take a reduction in wages on their jobs. The thing will go along until their temporary jobs become their regular jobs, and they will then be glad to go back to their former employment with a proper reduction. When that time arrives, the product that they were accustomed to produce can be turned out at a cost that will permit it to be sold.

MATTISON (E): But if we would get together and talk about accepting a cut, the men would say, "When we got the last cut of 20% we thought that would stimulate business, but it has not done any good; now will this 10% cut do any good?"

KINGSBURY (M): What do you think about it?

MATTISON (E): If we have to make a sacrifice, let's do it, provided it stimulates business and gets our fellows back to work again.

KINGSBURY (M): What is your own thought about the time when they will get back to work?

MATTISON (E): I have been thinking about that for six months. The price of steel has got to come down as well as wages.

KINGSBURY (M): Do you really think so?

MATTISON (E): The big jobbers are not going to buy steel at present prices and in a short time have the price of steel drop $5 or $6 and leave them with a large stock of high-priced steel on their hands. If other concerns are making steel cheaper than we can make it, then in order to get business we must make steel as cheaply as they do. If the difference in the price of labor is the

cause, then I see no other way than to reduce wages. We certainly cannot get business unless we can quote our product as cheaply as the other fellow.

KINGSBURY (M): Do you really believe that?

MATTISON (E): I certainly do.

KINGSBURY (M): If that is so, then the longer we stay up in cost and price the longer it is going to take to get back into good business, according to your own analysis.

MATTISON (E): Ware Bay Steel is down below us in their labor rates and yet they are not getting much business.

KINGSBURY (M): They are perhaps getting some more business. It will take some little time because buyers are not going to buy strongly until they think things are down to rock-bottom. But the longer you take to cut down the cost the longer it is going to take to convince the buyer that it is down.

MATTISON (E): Most of the workmen think that the big companies are trying to grind them down as far as possible, thereby making the men glad to get back to work at any price.

CHAIRMAN: The fact that this company has gone ahead and stocked pig iron and billets up to almost $1,000,000 in value is pretty conclusive that this company at least is not grinding the workmen down to the last cent.

LAMSON (M): I think the workmen do not understand the situation, and have hit upon this idea as an explanation.

KINGSBURY (M): I do not see that you as council members can do more good for your constituents than to explain this situation in its true light.

There was no further discussion of wages at that meeting.

About a month later the plant assembly met again. Since the last meeting a number of wage adjustments had been made in the iron and steel and related industries. On July 2, the Rainey Company and the Washington Coal and Coke Company had reduced wages 10%. That was their second reduction. On July 6, the United States Steel Corporation had abolished the one and one-half time payment for overtime work, the adjustment to become effective July 16. Since the corporation was endeavoring to afford employment to as many men as possible by operating eight-hour shifts, the adjustment meant less in the way of actual money loss to the employees than seemed to be the case on the surface. On July 12, some steel companies had reduced wages of common labor from 37 cents to 30 cents an hour, and on July 16, several independents had reduced wages to 30 cents an hour

and had canceled the one and one-half time payment for overtime work.

After unfinished business had been discussed at the July meeting of the plant assembly, a member of the management group spoke of the business situation:

One of our salesmen called on a company before it placed its order. The company did not place its order until we had a chance to bid on it. Another steel company underquoted our price, and we could not get the order. There is some business. Business is commencing to revive slowly, and there will be lots of it at pretty low prices and more of it at still lower prices.

KINGSBURY (M): Does any one have any suggestions as to how we can sell some steel?

DONOVAN (E): What do you suggest: that the workmen accept a reduction in wages that will bring our costs down to a point that will put our sales department in a more favorable position?

MORRIS (E): Would a reduction in prices stimulate business?

BLAKE (Manager of Works): Eventually, yes.

KINGSBURY (M): The reduction in prices last month has stimulated business considerably. Some people have landed some pretty big orders.

BLAKE (M): Everything has got to come down, and the longer we put it off, the longer it is going to take to get back to better operations here. Last month our costs were higher than the prices we received for our product. The price of steel has come down since then. We must reduce our prices or lose our old customers and the trade built up over a period of years.

DONOVAN (E): I asked the question because men ask the representatives continually about the same thing. When we got the 20% cut, the men said, "Are we going to do more work? If we can get more work, we will be able to get along," and they are asking now, "If we accept another cut, are we going to do more business?"

BLAKE (M): We sell to people that are producers. That is why we are hit so hard.

MORTON (E): What do you think would be a fair reduction in wages to meet the situation?

KINGSBURY (M): That is pretty hard to say. A lot depends upon the efficiency of the men, but it looks to me as though we can't continue at our present scale in view of the prices ruling in the market. I don't see where we are going to get off under the present depressed situation. We may have to shut down and get out of business entirely.

BLAKE (M): These are trying times for every one, and our customers can't understand why we can't meet other prices. I feel very much

as though it would be a great mistake to make definite promises. The question you ask as to whether we could build up business if our costs were sufficiently lower, I will answer this way: We can't build up business right away, but I believe a reduction will keep us from slowing down. Business is going to come back slowly. If we do not keep the customers on our books, we won't be able to run and, therefore, to give our men employment. It would be cheaper for us to buy steel from some other company where costs have been brought down and wages adjusted and then resell to our customers.

MATTISON (E): Can't the management figure out what would be a fair reduction in wages?

BLAKE (M): We are not going to ask men down here to do any more for us than men in our competitors' plants are doing for their managements, but there are two things in our situation that are a little exceptional. The first thing is the company policy about adjustment of wages; the directors would hesitate to ride roughshod over this understanding. If it was recognized that it would be to our mutual benefit to set that policy aside temporarily, it could be done by mutual consent. Some of the men regard this policy as a definite promise, and the company would not want to give them the impression that it violates its promises. On the other hand, we have always endeavored to pay the market rate of wages or slightly better, and this is just as much of an understanding with the men. We are now paying considerably above the market.

KINGSBURY (M): I do not believe any member of the management group wishes the employee representatives to make a statement right now with regard to accepting a reduction in wages. We are just giving you our position on the matter.

BLAKE (M): We have come to this table to deal with facts, and it is a question now whether we are going to have employment in this company or not. We want to come to the council table to talk with the representatives of our men instead of issuing orders. We want to discuss matters with you and have you understand our policies instead of saying that our wages will be so and so. We believe that if we get together and talk about our problems you will go back to work understanding our position and we understanding yours and that both sides will be in a better frame of mind and will be able to do better work.

A discussion ensued of matters related to the wage situation. Rents, the possibility of reducing living costs through cooperative buying, and prices at public markets were among the subjects mentioned. Then the management members retired to permit the employee members of the committee to discuss the sub-

ject among themselves. When the meeting reconvened, the spokesman of the employee group said:

MORTON (E): We would like to get the minutes of this meeting into the hands of the employees before we take any further action. I move that the minutes of this meeting be distributed to those working as soon as possible, and that copies be mailed to employees who are not working.

This motion was carried unanimously, and the meeting adjourned.

A fortnight after the July meeting, the employee representatives at their caucus passed the following resolution and submitted it to the management.

In view of the business situation and wage cuts elsewhere, the employee representatives propose waiving the understanding regarding wage adjustments being made not more frequently than semiannually, and agree to accept a 10% cut in wages, with the proviso that no further reduction be made within six months.

To curtail overhead expenses, we recommend that this cut apply also to foremen and their assistants, and we recommend that each foreman and his assistant, as near as possible, take one day a week off without pay.

Just prior to this action, the common-labor rate was reduced in certain independent plants in the Middle West. The production figures issued by a leading trade journal showed that the July, 1921, pig-iron production was the lowest on record in 17½ years; in December, 1903, production had been somewhat lower than in July, 1921. On July 30, 1921, the Frick Coke Company, a subsidiary of the United States Steel Corporation, announced a second wage cut, this time of about 10%. This cut carried wages for certain operations back to the scale of November 10, 1917. The labor rates of many of the Frick Coke Company's competitors were lower than the adjusted rates of that company.

About a week after the management of the Alden Steel Company received the resolution of the employee representatives proposing a 10% cut in wages, a special meeting of the plant assembly was held in order to consider the wage situation. It had just come to the attention of the management that the United States Steel Corporation was going to reduce wages for common labor from 37 cents to 30 cents an hour, effective August 29, 1921.[1] At this meeting Mr. Kingsbury spoke as follows:

[1] Announced by Judge Gary, August 19, 1921.

KINGSBURY (M): We have received the resolution of the employee representatives and have thought it over carefully. The management feels that you fellows have made an earnest effort to put us in a better competitive position. Perhaps all of you feel that you have taken a very strong stand in passing this resolution. I dare say that a number of your constituents exerted pressure against a resolution of this kind. Even though you accepted considerable censure from your constituents, you felt that you were doing the right thing and had the backbone to go through with it.

The situation since your meeting has changed very materially. The United States Steel Corporation is about to put into effect, as of August 29, a cut in common-labor rates from 37 cents to 30 cents an hour, and this makes our position very difficult.

In regard to the latter part of your resolution, referring to the wages of foremen and suggesting that they take a day off each week, we feel that this is a natural question to arise in your minds. We believe, however, that this matter is entirely outside of the jurisdiction of the assembly. I would like to suggest that your resolution be modified in the light of more recent happenings.

The *Iron Age* published a table[1] showing wages paid common labor by the United States Steel Corporation from 1915 to and including August 29, 1921. This information is given in Exhibit 2.

EXHIBIT 2

WAGES OF COMMON LABOR PAID BY UNITED STATES STEEL CORPORATION

Date	Wages (10 hours)	Date	Wages (10 hours)
1915	$2.00	Aug. 1, 1918	$4.20
Feb. 1, 1916	2.20	Oct. 1, 1918*	4.62
May 1, 1916	2.50	Feb. 1, 1920	5.08
Dec. 15, 1916	2.75	May 16, 1921	4.05‡
May 1, 1917	3.00	July 16, 1921†	3.70‡
Oct. 1, 1917	3.30	Aug. 29, 1921	3.00
Apr. 16, 1918	3.80		

* Eight-hour basic day established. Time and one-half paid for overtime.
† Time and one-half for time over eight hours abolished.
‡ Approximately.

After some discussion, one of the employee representatives moved that the assembly refer back to the employee representatives their resolution proposing a 10% wage cut. This motion was seconded and was carried unanimously. Mr. Kingsbury then

[1] *Iron Age*, August 25, 1921, p. 501.

proposed a wage cut averaging approximately 30%. He spoke in support of his motion as follows:

KINGSBURY (M): There are plenty of men out of work under the present slackened condition in the business, and some of our competitors are having men work 3 days a week on 12-hour turns, with the result that they get a rate of speed out of the men that we cannot get working our men 8 hours a day throughout the week. I realize that my proposal is going to make earnings here very slim considering the cost of living, but it is better to have small earnings than to have no earnings at all. The situation in the business has become steadily worse, and we look for still lower prices. I cannot see what the results will be if we do not adopt something along the line of the cut proposed, and put ourselves on a competitive basis. I believe, and it is only my personal opinion, that we shall have to shut down unless we take action in this matter.

LAMSON (M): Probably we had better illustrate the proposed adjustment on the blackboard. On July 16, the United States Steel Corporation abolished the basic 8-hour day, which was a 14.3% reduction for men working 12-hour turns. Taking for example a man making $1 a day, he would be cut to 85.7 cents. Then this present cut from 37 cents to 30 cents an hour is in effect an 18.9% reduction, and applying this rate to 85.7 cents we have 16.2 cents reduction in addition.

85.7 cents—16.2 cents=69.5 cents.

$1.00—69.5 cents=30.5 cents.

We propose, therefore, a reduction of 30.5% for our turn men. For men working 10 hours the elimination of the 8-hour basic day means a cut of approximately 9%. This brings their $1 to 91 cents, and 91 cents times the 18.9% cut to be imposed presently, yields 17.2 cents. 91 cents—17.2 cents=73.8 cents.

Therefore, we propose a 26.2% reduction for the 10-hour men. Even applying these reductions we would still be somewhat more liberal than our competitors. As I figure it, we would be some 10% to 15% higher than they, even granting these reductions. We do not propose to abolish the 8-hour basic day in this adjustment.

BLACK (E): I suggest that the employee representatives have a chance to talk this over among themselves.

After the meeting reconvened, the chairman said:

CHAIRMAN: We still have under consideration the motion that men working 10 hours be reduced 26.2%, and that turn employees be reduced 30.5%. Is there any further discussion?

There was no discussion.

CHAIRMAN: It is then in order to have a ballot.

The vote stood: 13 management representatives in favor of the wage cut, none opposed; 3 employee representatives in favor, 10 opposed.

CHAIRMAN: Since this motion has not been carried by a three-fourths majority, it is in order to reopen the discussion or to propose a compromise.

KINGSBURY (M): I would like to hear from some of the employees who voted against this motion so that we can understand their viewpoint and the reason for their vote.

CRAIG (E): The men are willing to take a cut, but this cut is a little too heavy, 30% is a little too heavy. I bought coal this morning at $16.25 a ton.

KINGSBURY (M): Can you tell me how the company can stay in business in view of the competition we are up against?

CRAIG (E): The men come to me and say, "Better starve without working than to starve and work, too."

KINGSBURY (M): You will have to do what you think is right for your constituents.

CHAIRMAN: I think there is one point which has not been overemphasized, and that is, that even with the adjustment proposed by Mr. Kingsbury, we will be paying above the market, probably 10% or 15%. It is certainly much harder to accept a cut than an increase, but the company, it seems to me, is shouldering its share of this burden. We expect to be able to pay more than our competitors because of the extra efficiency that we have been receiving.

LAMSON (M): I am wondering if the employee representatives really are reflecting the wishes of the employees. A fellow came up to me the other day—I did not know him, but he knew me—and he asked me about work this week—how many days we were going to run. He said, "What do you think about the Steel Corporation wage cut?" I said, "What do you think about it?" He said, "I think it is about time we got busy, cut wages down so that we can get back to work."

MORTON (E): Well, I have worked half-time for the last six months, and I know what it is. I have gone as far as anybody in this matter. I would like to put in my resignation right now and see if it would make any difference. That is the way I feel about it. I do not think anybody has any right to cast any reflection.

O'REILLY (E): Mr. Kingsbury, how would it be to take a referendum vote? Give every man a chance to vote on this thing.

KINGSBURY (M): My own thought about that, Mr. O'Reilly, is this. We have here a representative plan. We do not have a referendum arrangement in this plant. A referendum and a representative plan

are two different things. You know the situation of the business, but perhaps the men outside in the mill do not. It might be their vote on a referendum to turn this proposition down, not knowing the facts about the steel business that you have been given an opportunity to learn. If these workmen find out later, to their sorrow, after voting against this proposition, that the company could not stay in business on the basis the employees forced them to, they will repent.

O'Reilly (E): Go to the men and ask them what they want. They will not give you a fair-and-square answer. It is very hard to get their opinion as a group.

Kingsbury (M): The idea of representative government is this. You men are representing the men in your division. You hear the whole story. You are supposed to be men that have the sand to do what you think is best for the men you represent when you have heard the story on both sides.

O'Reilly (E): What if the majority of the men are against the proposition?

Kingsbury (M): When we elect a man to Congress we expect him to do the wisest thing, even if it is against popular sentiment at the time. The best representative is the man who thinks things through clearly, who thinks for the best good of his constituents, and who can think better than the average man. He ought not always to do simply as the majority of the men in his division would tell him to do. He has had a far better chance to study the problems than his constituents, and if he feels their advice is unwise, he should vote according to his best judgment.

If there is nothing more we might as well adjourn. I will report our deadlock to my superiors, and I cannot tell you definitely what action will be taken with respect to operations here. I have told you my own thoughts on the matter. If the plant is shut down, you can feel pretty sure that it was your action that caused it. I would not guarantee that even if the proposed adjustment was passed we could stay in the game. If it is passed, we will do our damnedest to stay in the game. If there is any one who thinks that this meeting might be recessed for a week, that could be done. We will give you a chance to think this thing over and talk with your constituents. If there is any closing down, it will not be done in a vindictive way; it will be done only when the company is forced to close down.

Craig (E): I cannot understand how we can work under this proposal and pay the price we have to pay for shoes.

Lamson (M): Suppose you do not work at all; then what would you do? When things were going up, every time you got a 10% raise, you told us that the retailer soaked you 20% more. Now when things are going down, retailers are going to drop their prices, too.

CRAIG (E): I have worked in the steel industry 20 years. When I started working, wages were not very high, but we could live because everything was cheap.

KINGSBURY (M): Were you given the consideration then that you are given now?

CRAIG (E): No, the company just said there would be a cut, and that was all there was to it.

KINGSBURY (M): Yes, they just announced a cut—put up a notice—saying the cut would be so much.

LAMSON (M): We know that some of the independents have been paying 30 cents an hour since the first of the month, and now the Steel Corporation is going on to that basis. Even with this proposed cut, we will still be paying better than that. It seems to me that the company is standing its share of the bad weather.

KINGSBURY (M): They have been paying 30 cents an hour in the Pittsburgh district, and some of the eastern companies have gone to 25 cents an hour.

CHAIRMAN: Do you want to take another ballot?

MATTISON (E): I make a motion that we take another ballot.

The motion was seconded and carried.

The second ballot stood: 13 management representatives in favor, none opposed; 9 employee representatives in favor, 4 opposed.

CHAIRMAN: The chair will declare a motion carried to the effect that a wage adjustment will be imposed carrying a reduction, effective Monday of next week, of 30.5% for turn men, and 26.2% for 10-hour men.

KINGSBURY (M): I think this action puts it up to us of the management to do our damnedest to keep in the game. We have got to do a lot of things beside talk about wage reduction. We are trying to effect economies all along the line, and we will welcome any suggestions from you fellows as to how to get costs down. We want to put our sales department in just as advantageous a position as possible. It takes a mighty stiff backbone for you men to do this, but I believe that you have done the best thing for your constituents.

MORTON (E): There will be a lot of things said about us that would not look good in print.

KINGSBURY (M): That may be true enough, but that is when a man is put to the test, and he should have the stamina to stand it. If he simply follows popular sentiment, very often he will not be doing the best thing for those he represents. I believe that most of the men will realize that you have done the best thing for them. Of course, it is pretty hard to make an absolute demonstration of

that. I suppose that they would realize it quicker if they were out of a job for several months. Then they would be giving you just as much hell for taking action that would turn this proposition down. The man who represents people is more or less between the devil and the deep sea; he has got to be a man of backbone, considering all sides, but sticking to the road he believes to be right. We certainly appreciate your cooperation, and hope that you will do your best to get your constituents to see things as you see them, so that they may go at their work with enthusiasm and efficiency, for it is going to take that to put us in a proper competitive position and keep the wheels turning.

A motion to adjourn the meeting then was carried.

Should this employee representation plan have been continued, changed, or dropped?

2. Elmore Company

Jurisdiction of employee representative bodies

In 1923 the Elmore Company decided to employ a firm of industrial engineers to install a new system of production control and wage payment. Shortly after the engineers began work, the employee representatives in the works council at this company's plant asked that they be informed in detail of the company's plans, stating that the matter had been brought to their attention by chance and not officially. They believed that the company should afford them opportunity to express their views on the proposed wage system.

The plan of employee representation in effect in the Elmore Company's plant had been established in 1921. It was expressly stated that the works council could discuss wages, hours, working conditions, safety, and welfare activities, and make recommendations to the management concerning these matters. The works council was a bipartisan body of 20 employee representatives, elected from their respective departments, and an equal number of management representatives. The majority vote of each side was recorded as its unit vote on any issue before the council.

The plan of representation had been submitted to the employees and had been accepted by them in referendum vote. A minority, however, was bitterly opposed to the plan because of

a desire to strengthen a labor union in which probably 20% of the Elmore Company's workers held membership. This union had called an unsuccessful strike against a wage cut agreed to by the works council about six months after the council's creation. Since that time, the union had not gained ground, although there were men in the plant who actively opposed the plan of employee representation and advocated unionism in its place.

During the 30 years that it had been in existence, the union had waged several bitter strikes against the Elmore Company and other companies in the city engaged in the same line of manufacturing. The Elmore Company had not dealt with the union officially for more than 15 years; the company objected to the type of leadership in the organization and to the violence and intimidation that had characterized the labor controversies in which the union had participated.

Most of the company's employees were semiskilled or unskilled. Operations were standardized and subdivided. Working conditions in certain departments were unpleasant because of the nature of the raw materials handled. In a few production departments there were skilled laborers, and the maintenance department employed a majority of craftsmen, such as machinists, carpenters, and pipe fitters. Unskilled labor was used in many of the production departments where the operations were simple; this type of labor was used also in transporting and loading materials and in various rough jobs about the plant.

The Elmore Company had reduced its rate of labor turnover considerably in the eight years prior to 1923, but the operating conditions in its plant, as well as the character of the local labor market, tended to keep this rate above 100% per annum. The city in which the Elmore Company was located was an industrial center in which a variety of products were made. This city was on a number of railroad systems, and a substantial part of its working population drifted back and forth between it and other near-by cities and agricultural sections. The labor turnover of the Elmore Company was particularly high among the unskilled workers. The company had found that a layoff of a fourth of its employees reduced its turnover rate 50%.

The management had proposed the plan of employee representation as a means of affording better contact with the employees. At first the plan was viewed with suspicion, but later the

employees brought up before the works council many questions, dealing usually with working conditions, personal complaints, and piecework rates. These questions had been settled satisfactorily. Wages had been decreased and increased at the recommendation of the council; individual jobs had been rerated; working schedules had been revised; and in other ways the council had shown its usefulness to both management and employees.

The Elmore Company bought its raw materials and sold its finished product in highly competitive markets. Its opportunities for competitive advantage lay chiefly in improvement of its plant management and marketing methods.

In recognition of this situation, the company had inserted the following clause in the plan of employee representation:

> The action of the works council shall relate to policies of the company in regard to matters of direct interest to the employees. The execution of policies remains with the management, although the methods employed by it are proper subjects for discussion in the works council.

In another clause it was stated that when the council could not agree on any plan of action or recommendation to the management, a counter proposal could be made. There was no provision for arbitration of deadlocked questions or for their reference to some official of the company or to its board of directors for final decision.

Approximately 4,000 workers were employed by the Elmore Company, and there was, in general, one representative for each 200 employees in the several precincts into which the plant had been divided. Within some of the precincts there were as many as 50 separate tasks, each having its own piece rate.

In deciding to install the new system of production control and wage payment, the management had been of the opinion that the step would improve the grade of foremanship in the plant and would induce the workers to put forth their best efforts.

In principle, the wage system which was to be introduced was based on production standards. The company guaranteed a minimum hourly wage. When any operative, or group of operatives if the group system had to be used, was credited for more work than was called for by the standard, the operative or the group received a bonus equal to 80% of the piece rate, for the production above the standard. The other 20% was shared among fore-

men and indirect labor. The company saved in increased use of plant and consequent lower overhead costs. The production standards were to be set after time studies had been made of the operations. It was expected that a new study would be made whenever an operation was changed. Time studies were made upon individuals and groups of men at work; the engineering firm disapproved of laboratory studies or the use of pacemakers.

When the employee representatives asked for information regarding the new system, the senior management representative on the works council suggested that the request be referred to the general manager, and that a special meeting be called to hear his reply. This suggestion was acceptable to all present.

The general manager decided to present in a letter to the works council his views on the authority of that body. In the letter he said that the council, in his judgment, should limit its discussions to methods and policies in force. He thought that freedom on the part of the management to make changes in operating plans was essential to the success of the business, and that at times it was advantageous to the company to keep secret, until they actually were installed, new methods that might directly affect workmen by imposing changed tasks and responsibilities upon them. He feared that the management's freedom in introducing changes would be restricted if the employee representatives had the right to question and debate all proposed management action which directly affected them.

He stated that in his opinion the acceptance of this position by the employee committeemen would not impair their prestige or reduce the favor in which the plan of employee representation was regarded by the workmen. He did not hold this decision inconsistent with the past practice of the management in asking the employee representatives' aid in efforts to improve production and to reduce waste, although these might be regarded as employee participation in managerial programs. The manager, in effect, drew a line between policies projected and those in force. The management could introduce either for discussion, but could limit the discussion of projected policies; the employees could discuss policies in force without restriction and could recommend their modification.

1. Would the union's acts in this case benefit the employees?
2. Should the employees have agreed to the manager's ruling?

XXXI

THE TRUST MOVEMENT

Black, 860-894; Bye, 161-167, 333-337; Clay, 115-127, 137-152, 355-365; Edie, 182-193, 745-768; Ely, 197-200, 214-233; Fairchild, I, 128-138, 345-354, II, 46-70; Gide, 134-138, 189-195; Marshall, 303-304, 477-495; Rufener, 285-304; Seager, 225-228, 468-502; Seligman, 139-153, 345-351, 632-642; Taussig, II, 441-463; Turner, 602-631.

1. United States *v.* American Can Company, *et al*[1]

SUIT FOR DISSOLUTION ON ALLEGATION OF MONOPOLY

The United States, hereinafter called the "Government," brings this proceeding under the fourth section of the Anti-Trust Act of July 2, 1890. It says that the American Can Company, a New Jersey corporation, was formed and has since been maintained in violation of the first and second sections of that statute.[2] . . . .

. . . . The Government proved one set of circumstances. By cross-examination the defendant sought to minimize their effect, but it offered no evidence in contradiction. When its turn came, it proved other things. The Government attempted to show from defendant's witnesses that, either they were not as well informed as they supposed themselves to be, or that there were many things in economics undreamt of in their philosophy; but, as a rule, it did not undertake to show that they were wrong as to any actual fact of real materiality or importance.

[1] Extracts from opinion of District Court, District of Maryland, February 23, 1916. 230 *Federal Reporter* 859.

[2] ["Section 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. Every person who shall make any such contract, or engage in any such combination or conspiracy, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court." Comp. St. 1913, Section 8820.

"Sec. 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any person or persons to monopolize, any part of the trade or commerce among the several States or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court." Section 8821.]

What has been proved is: First, that the defendant was organized to monopolize interstate trade in cans, and to attain that object such trade was unlawfully restrained by it, and by those who formed it and directed its earlier activities, and that some of those individuals still participate in its management and control. Second, for some time before the filing of the petition in this case, it had done nothing of which any competitor or any consumer of cans complains, or anything which strikes a disinterested outsider as unfair or unethical.

The Government says that certain restraints once illegally imposed by the defendant upon the trade are still in force, in part at least. The defendant replies that, if in any sense so much is true, such restraints have long ago become theoretical rather than real, and, if the court thinks it worth while, the defendant has no objection to their being declared illegal, or even to an injunction forbidding their further enforcement.

The real controversy between the parties goes much deeper. The Government says the defendant, by its size, its wealth, and its power, exerts a great influence upon the entire trade in cans, and that this influence, in some very important respects, notably as to the fixing of the price of packers' cans, is so great that it may, without straining words, be said to dominate the market.

The defendant answers its size is not a crime. The Government replies, in substance:

> True, provided such size is the result of natural and legitimate growth, but not when it is the outcome of unlawful means used for the very purpose of securing a control of the market. In the latter case, so long as the control continues, the illegal purpose is still in process of execution, and, if nothing short of dissolving the defendant into a number of smaller companies will completely emancipate the trade, the court must decree such dissolution.
>
> The combination among the once independent concerns might have been otherwise effected. They might have subjected themselves to control of a single will, while each still preserved its individual existence. In that event, it would be clear that the court could and should put an end to the agreement among them.

Reference is made to those cases which hold that the way in which the combination is brought about is immaterial. If it seeks an end forbidden by the Anti-Trust acts, and that end is attained in whole or in part, the Government has a right to demand that it be dissolved.

. . . . . .

The can-making trade has always made a distinction between cans for hermetically sealing food products and cans for other purposes. They call the former packers', the latter general line, cans. Almost all packers' cans are now made of certain standard shapes and sizes, which are, or which are intended to be, the same, no matter from what shop they come. On the other hand, general line cans are of every variety,

shape, and size, according to the use to which they are to be put, and the taste of him whose goods are to go in them.

There have therefore always been more customers for machinery for making packers' than for the manufacture of general line cans. The progress of invention in the former has, accordingly, been more rapid. Modern machinery for the fashioning of packers' cans doubtless costs far more than that in use 16 or 17 years ago, but even now it can be installed at an expense which is small as compared with the outlay necessary to equip such a plant as is required in many other industries. The small manufacturer has much greater difficulty in so fitting himself for the manufacture of general line cans, as to enable him to compete in all their kinds on approximately equal terms with a powerful rival. He cannot afford to buy all the types of machines which might be more or less advantageously employed in making some sorts of general line cans, because he will have very little use for some of them. He can wisely buy only such as are fitted for the making of the relatively few varieties of cans for which he can build up a considerable demand, or which can be used for some of the simpler operations required for the making of many kinds. Favored by local conditions, such as proximity to markets, and so forth, he may still make partially by hand, and sometimes may competitively sell, some sorts of general line cans.

. . . . . .

In the fall of 1899, or the winter of 1899-1900, there were somewhere from 100 to 175 can makers who sold some or all of the cans they made. Their establishments varied in size and importance from little shops turning out a few hundred dollars worth of cans a year to well-equipped factories whose sales in the like time ran up to hundreds of thousands of dollars. For the most part, each of them had one plant. There were a few exceptions. The Pacific Sheet Metal Works had factories at Los Angeles, San Francisco, Astoria, and Fair Haven. Norton Bros.' factory was at Maywood, Illinois. Corporations controlled by it had plants at Baltimore and on Long Island. There was a Hunt plant at Cleveland, and another at Kansas City. The relations between Black and Krebs at Baltimore and the Dugdale Can Company at Indianapolis were close, as were those of the R. Tyne Smith Can Company, of Baltimore, and the Tri-State Can Company of Keokuk. Doubtless there were other such instances, but there could not have been many. From time to time there were price agreements between a few of the larger makers in particular sections of the country; for example, in Baltimore among the so-called Big Four, and in the Chicago-Indianapolis district. These were, of course, terminable by any of the parties at any time. In the light of our present knowledge, they were doubtless illegal, as they were certainly nonenforceable. There was always the probability that one of the parties to such a gentlemen's agreement might suspect that some one of the others was not acting as a gentleman should, and then, as apparently happened in 1898, open competitive warfare took the place of the more or less

uneasy truce which had for a while prevailed. In short, although in certain districts barriers against competition were from time to time erected, some of which proved for a while more or less effective, actual competition in large parts of the country was always operative, and in all sections and at all times there were the potential possibilities of a competition which in a few hours might become real and intense. So far as the record discloses, there never was any restraint upon the perfect freedom of competition in the sale of general line cans.

It is not easy to say what the condition of the can-making industry, as viewed from the standpoint of those engaged in it then, was. . . . . The facts probably were that many, if not most, of the can factories, in common with almost all other lines of business, had felt acutely the hard times from 1893 to 1898, augmented as they were by the sharp price war in packers' cans in the last-named year. About that time tin plate fell to what apparently was the lowest point it ever reached. As a result, packers' cans then sold for less than they have ever brought at any other time, before or since. Many of the can makers had shared in the improvement in general business conditions which set in shortly after midsummer of 1898, and in the period which followed some of them doubtless did very well indeed. The men in that business, like all others, had their ups and downs, their trials and their worries, among which not the least were the energetic efforts of their competitors to get their customers away from them.

Comparatively few of them were well equipped with the best machinery then obtainable. Not many of the plants were housed in buildings erected for them. Most of them occupied structures which had been originally put up for other purposes. Relatively little highly skilled labor was then, or apparently now is, required in can making. Under such conditions, provisions for the employees' comfort and health were not likely to be what they should have been.

The period of depression which followed the panic of 1893 was by one cause or another prolonged until the close of the Spanish-American War, five years later. When the tide turned, it did so with a rush. In a few weeks the industrial and financial world passed from the nadir of pessimistic gloom to the zenith of optimistic glamour. Some men made fortunes almost overnight, and countless others hoped to. Some of the earlier combinations, or so-called "trusts," whose formation and activities had led to the passage of the act under which this proceeding was instituted, had been very successful. It was quite as true that a number of others had in the panic, or in the subsequent era of depression, gone down to destruction. The misfortunes of those who failed were forgotten, or, when recalled, were laid to individual mismanagement. Most people believed that, if a monopoly could be secured in any line of business, the profits which would be earned would be almost unlimited. Some shrewd men knew that, in that state of public opinion, the money which would be made by those who promoted the combination of most of the leading competitors in any line

of industry, might be magnificent. Perhaps even they, to a greater or less extent, shared in the general opinion that 2 and 2 so put together would make, not 4, but 22. But whether it was sound or not made little difference to them. They did not expect to get their reward from the successful operation of the combination. With good management they might realize their profits before it had really started in business.

It was almost universally supposed that there were no legal obstacles in the way of combining any number of individual plants, no matter how large a proportion they might constitute of all theretofore engaged in any one line of business. Men thought that *United States* v. *Knight*, 156 U. S. 1, 15 Sup. Ct. 249, 39 L. Ed. 325, had been decided upon the facts as the world knew them to be, and not as the subsequent decisions of the Supreme Court showed, merely upon that small portion of such facts which the record in that case happened to disclose.

From 1898 to 1902, or thereabouts, the work of forming new combinations went rapidly on. In some industries, as in the manufacture of steel, there was special and real need for bringing under one control the whole series of operations, which began with the mining of the ore and ended with the delivery of the finished product to the ultimate consumer. In still others there were peculiar conditions which seemed to make some consolidation expedient. In many there was something or other which might have been bettered. In all, some of the things which one would rather have had otherwise were brought about by the pressure of the competitive struggle. The panacea popular in financial and business circles, if not among the consumers, was the elimination of competition.

One of the difficulties in finding out how far any particular combination was really the result of internal economic and industrial forces is that those forces never worked alone. The activity of promoters who might be men already in the trade, but who sometimes never had been usually bore a large part in bringing about a consolidation. Often it had more to do with the result than all other causes combined, and in some cases it is difficult to resist the conclusion that it was about the only reason why amalgamation was ever attempted. It is quite possible that in an industry like can making, as it was carried on in the closing years of the last century by more than 100 separate concerns, no union, however desirable from the standpoint of either the can makers or the public, could have been brought about except by the efforts of some individuals who thought they could make a quick and large profit for themselves by uniting the various plants under one management, no matter what the immediate or even the ultimate results of such union might prove to be. If that be so, those who think the result desirable will hold that promoters' profits and the extravagant sums required to induce so many independent manufacturers to sell out were a part of the inevitable price of achieving a useful purpose. Unfortunately, under such circumstances the cost of

getting rid of competition sometimes proves almost as great as that of letting it alone.

To pass from the general to the particular: The men who really brought about the organization of the defendant do not appear to have been more than five in number, and only one of them, Edwin Norton, was a can maker. He did practically all the work of persuading, inducing, or coercing the can makers to sell out. He and his brothers had been for a number of years the largest and doubtless the most generally known manufacturers of cans in the country, as he was certainly one of the most active and aggressive. The factories of his firm had probably the best equipment of labor-saving machinery. Certainly in this respect they were surpassed by none. He had been a party to the price-maintaining agreements and a prominent figure in the price war already alluded to. The idea of forming a can combine seems to have occurred to him more than once, although the record appears to indicate that the scheme which was actually carried through originated not with him, but with the defendant William H. Moore and his partner and brother, the defendant J. Hobart Moore. With them from the beginning, or at all events from a time preceding the actual formation of the company, were associated the defendant Daniel G. Reid and one William B. Leeds, now dead. . . . .

. . . . The record shows that in the latter part of 1899 Norton was commissioned by the Moores to get options on can-making plants, and then, or later, on plants for making can-making machinery as well. He set about this mission promptly, and apparently had little difficulty in getting many of the desired options.

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. . . . There is every reason to believe that the defendant acquired the business and plants of concerns which on the 1st of January, 1900, made 90% of the cans used in this country and not made by establishments which themselves used the whole or a part of their output.

How were so large a proportion of the can makers induced to sell? Fear of what would happen to them, if they did not, unquestionably had more or less influence with a good many of them. There is some testimony that Norton told some of them that if they did not sell out they would be put out.

The record does not affirmatively show that such threats were frequently made. They were not required. Apart from anything he said, apprehension was quite general that the only choice was between going out or being driven out. The country was at that time familiar with stories of the fate of those who in other lines of business had refused liberal offers from combinations previously formed. The records of the so-called Anti-Trust cases have since shown that some of these tales were not without foundation in fact. What was most feared was that a can maker who did not go into the combine would have difficulty in getting tin plate, the raw material of his business. The concern to

which the defendant the American Steel & Tin Plate Company succeeded, and which, together with that successor, will be called the "Tin Plate Company," had been then recently organized. Prominent among those who officiated at its birth were the Moore Bros., Reid, and Leeds. Norton and others spoke as if the relations between the proposed can company and the new Tin Plate Company would be very close. Throughout the can trade it was currently believed that they would be. In point of fact, it is probable that they did not become as close as Norton then wished everybody to think, or as close as he then, himself, expected. There is testimony that he afterwards said that for this purpose the defendant had been born a year too late. An intimate connection between the Tin Plate Company and the defendant was a danger to all other can makers. If it should suit the defendant to wage a price war, its competitors would be hopelessly handicapped if it were able to buy its raw material appreciably cheaper than they. Nor were price discriminations all that they feared. Failure to make deliveries when and as required might be even more destructive to their business. Before the defendant was formed, it became known that it had acquired many options on patents for can-making machinery, and apprehension that it would be difficult for outsiders to secure an up-to-date line of machinery was rife, and, as the sequel shows, was amply justified.

Moreover, at that time few people knew anything of the ability of a small producer to maintain himself in competition with a rival having resources exceeding his 10, 20, or 100 fold. Possibly, the last word on that subject has not yet been spoken, but the experience of the last 15 years has apparently shown that in many lines of business the small man can, under such conditions, live and even thrive. Then, many feared that it was not possible.

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From a careful study of what the record discloses, I have reached the conclusion that the amount which the promoters agreed to pay for the plants taken over through them was probably somewhere around $25,000,000, of which not more than $23,500,000 was given for the 95 plants turned over to the defendant on the day after it was organized. It is certain that for half, and not improbable that for a third or less, of that money, defendant could have purchased land, erected buildings, and equipped them with machinery which would have had a greater capacity, could have been operated at a smaller cost, and would have been at least as well, if not better, located with reference to the needs of the consumer and the facilities for transportation.

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All the preparations deemed necessary having been made, the defendant was on the 19th of March, 1901, incorporated under the laws of New Jersey. As was then, if not now, the fashion, the incorporators and first directors were all employees of a New Jersey Trust Company

or of law firms concerned in the organization. The capital of defendant was fixed at $88,000,000, one-half common, one-half preferred.

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As has already been stated, the prices named in the options for the 95 plants, extravagant as in most cases they were, could not apparently have exceeded $23,500,000. The promoters were to furnish $7,000,000 cash, or, in all, in stock and money they were to lay out $30,500,000, for which they received $39,000,000 preferred and $39,000,000 of common stock. At the price of $100 for a share of common and share of preferred, their return was to be the difference between $39,000,000 and $30,500,000, or $8,500,000, a sum which, in cash, wisely expended would itself have sufficed to have given the defendant far better can-making facilities than it secured.

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Much can-making machinery, more or less in use, as late as 1900 had never been patented, or, if it had been, the patents on it had expired. A great many of these machines were of such simple construction that they could be made in almost any fairly equipped machine shop. To secure control of all such would have been impossible. Some of the most modern machines, those by which a large part of the work formerly done by hand was performed automatically, were, however, covered by patents. If these patents could be secured and arrangements made with the few machine shops in the country which were then equipped for turning out machinery of that class, competition in can making and can selling would be greatly hampered. Indeed, if the possibility of competitors' obtaining such machinery could be cut off for a comparatively limited period, possibly even for a year or two, the can company which acquired a number of plants equipped with such machinery and which could obtain more of it from the manufacturers could, if its operations otherwise were wisely carried on, secure a domination of the market, which could not be seriously shaken for years to come. The record shows that the defendant did acquire such control, although, for reasons to be subsequently pointed out, it did not reap all of the results which it naturally expected therefrom. It sought for six years to close to its competitors the machine shops which really counted. The largest manufacturer of automatic machinery for can-making purposes was the E. W. Bliss Company. For the sum of $25,000 a quarter, that company agreed that for six years it would not make certain can-making machinery for anybody other than the defendant. The latter had made some claim that patents owned by it covered such machines. The Bliss Company did not think they did. In any event, it is unusual for the owner of patents to pay somebody else $100,000 a year not to infringe. From the Adriance Machine Company defendant agreed it would annually for six years take $75,000 worth of machinery. That amount represented the full capacity of the machine company. To the Ferracute Machine Company, in return for exclusive privileges, the defendant guaranteed a profit of

$10,000 a year for six years. Defendant induced the Bliss Company to break contracts which the latter had already made to furnish such machinery, and, when the injured parties sued the Bliss Company for damages thus resulting, the defendant paid both the expense of defending the suits and the substantial judgments some of the aggrieved parties recovered. . . . .

. . . . The record amply justifies the assertion that for a year or two after defendant's formation it was practically impossible for any competitor to obtain the most modern, up-to-date, automatic machinery, and that the difficulties in the way of getting such machinery were not altogether removed until the expiration of the six years for which the defendant had bound up the leading manufacturers of such machinery. . . . .

The record does not disclose whether the promoters of the defendant really had reason to believe that they would be able practically to shut off the supply of tin plate from their competitors, as Norton in 1900 and early in 1901 was at least willing that the trade should think. As already stated, none of the promoters have seen fit to tell their story under oath. As it turned out, all the Tin Plate Company was willing to do was to bind itself to sell its tin plate to defendant at a certain fixed figure, below the price at which it sold to any one else. This preferential discount or rebate amounted, when the published list price of tin plate was $3.50 a base box, to about 64 cents on the quantity of plate required to make 1,000 3-pound packers' cans. This difference, the record shows, was far from negligible. In a close competitive struggle it might well have proved a decisive factor.

The defendant began to shut up plants as soon as it got possession of them. It kept on shutting them up until by April 21, 1903, it was operating only 36 can factories, and 3 machine shops, and it then proposed to close 5 more of the former and 1 or 2 of the latter. There has been a good deal of profitless dispute as to the proper term to describe what was done. What the Government terms "dismantling" the defendant prefers to speak of as "transferring" or "concentrating." What actually took place is clear enough, whatever one may choose to call it. Two-thirds of the plants bought were abandoned within two years of their purchase. Many of them were never operated by the defendant at all, and others were closed after a few weeks or a few months. Where they had any machinery for which use could be found at some other of defendant's plants, such machinery was transferred to the place where it could be used, which might be a few blocks away in the same city or hundreds of miles off in another state. Where it was possible that a piece of machinery might some day be of some use, although there was no immediate call for it, it was sent to some abandoned factory building to be there stored until it was wanted, or until it became clear that it never would be. Such machines, and there appear to have been many of them, as were too obsolete for economical use, were broken up and their fragments sold as junk.

Defendant has offered much testimony which shows that what it did, did not reduce the aggregate productive capacity of its plants below that of those purchased by it. Nevertheless, it is quite probable that, during the process of closing old factories with a view of concentrating production, there may have been a period in which the defendant was not able to turn out as many cans as it could have made had it simply continued to operate all the shops it had purchased to their full capacity. If so, the time during which this was true probably did not exceed a few months, or a year or two at the most; but, in any event, the reduction in productive capacity was a mere temporary incident, even if it be regarded as an inevitable one of the policy of concentration, and was not in itself the end sought or desired. Defendant shut down most of the plants it bought because that was by long odds the best thing to do with them. Cans could be made cheaper elsewhere.

Defendant denies that in its formation or early conduct there was any purpose to restrain competition or to secure a monopoly. It alleges that its organizers always had in mind the obtaining of some of the beneficent results which the record shows have in fact been realized. Its promoters have not seen fit, under the sanction and test of cross-examination, to tell us so themselves. Apart, however, from any presumption which may be drawn from their failure to take the witness stand, the facts dispose of its contention. The contemporaneous declarations of Norton show the purpose was to get into the combine all the important can makers and, so far as was practicable, the important makers of can-making machinery, as well. The carrying through of the plan was always understood to be dependent upon the securing of the greater number of the plants then engaged in business, a matter really of no importance, if the purpose in view had been nothing more than to engage in can making on a large scale and with up-to-date facilities.

No can factory at that time needed any other plant purchased to make it a complete economic unit. In this respect conditions differed from those which at that time existed in the steel industry.

There was no other conceivable reason, than the desire to suppress competition, for buying plants which it obviously would not pay to run, and at prices which in most cases far exceeded the cost of fitting up, with brand new and up-to-date machinery, factories capable of turning out several if not many times as many cans in the same time. It is in this connection that the prompt and wholesale dismantling is significant. What was done in that respect shows that the plants were bought, not for use, but to get them out of the market. If it be urged that they had an established business and goodwill which it was worth defendant's while to pay for, the answer is twofold: First, that according to other claims of defendant, the methods followed by those concerns in their dealings with their customers were such that their goodwill was valueless, or certainly would become so when they were brought into competition with the manner of doing business defendant now says it was even then its purpose to adopt; and, second, that

defendant paid quite as extravagant prices for plants which had neither goodwill nor established trade, for the simple reason they had not yet begun at all. As, for example, one factory, which had not made a can and which had cost $16,000, was bought for $80,000, and another in this city, the machinery of which then recently purchased had cost $12,200, was sold to the defendant for $40,000. Very similar was the case of a man whose father had given an option on his established plant. The son thereupon put $10,000 in machinery and sold it to defendant for $20,000 of its stock and $40,000 in cash. He apparently thinks he did not get quite as much as he should.

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With practically all the can plants in the country in its hands, with the control of the really effective can-making machinery secure for some time to come, it seemed that it would be a long while before there could be any chance for competition worth bothering about. Many people thought so. As already stated, many of the most experienced men in the business had been largely influenced in their selling out by the fear that successful competition with defendant could not be carried on. This forecast did not take sufficiently into account the extent to which, from the start, the defendant found itself handicapped, by the way in which it had been formed. The absurd prices paid for can plants which it did not want and could not use, and the immense sum absorbed by its promoters, had resulted in a tremendous overcapitalization. As already pointed out, it started with scarcely any free working capital. It could not wait for its profits. They must be made at once and in large volume, otherwise it would be upon the rocks before it was well started on its voyage. Prices had to be raised. This raising had the added advantage of furthering the general acceptance of the idea that the defendant was going to be a tremendous money maker. In that way the process of absorption of the large mass of its undigested securities with which the promoters were doubtless still struggling would be greatly aided. Prices were put up. There is much dispute as to how great the rise was. That, of course, depends largely on what basis is taken for the comparison. As compared with the prices prevailing three years before, it was very great. It was appreciable, but not so striking, when contrasted with those quoted after the formation of the defendant had become probable or certain. Comparisons of one year with another during that period are difficult because of the violent fluctuations which then took place in the price of tin plate. Tin plate from 1896 to 1898 was low, being lower in the last-named year than any year before or since, while from 1899 to 1902 it was higher than at any other year from the time when the making of it had become actually established in this country, down to the filing of the petition in this case. It was very decidedly higher in 1900 than it was in 1901.

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What happened shows that prices were put up to a point which

made it apparently profitable for outsiders to start making cans with any antiquated or crude machinery they could find in old lumber rooms or which they could have made for them in a hurry, or even to resume can making by hand. The evidence on these points is absolutely conclusive. Can making became attractive. Any number of people began to make cans, or, at least, began to try to make them. Perhaps in some cases the prices which had been paid for can shops made them hope that if they could get a can shop they would be able to sell out at a figure which would make them comfortable for the rest of their days. At first, the defendant seems to have thought it would try to buy them out, and it bought a few of them, as already has been mentioned; but in a few weeks, if not in a few days, it became plain that such policy was impossible. In the first place, its money was gone. It still had between $2,000,000 and $3,000,000 of stock which might be sold, but there was already doubtless so much of that stock seeking a purchaser that it was becoming more and more difficult to keep quotations up to the issue price. There were too many new shops to buy them all, and, as it has turned out, it was easy enough to start some more. The real remedy would have been to reduce the price of cans. If defendant had not been under the necessity of realizing large and quick profits doubtless it would have done so. Its mere cost of operation, excluding any allowance for capital investment, must have been below that of many of its poorly equipped competitors who then rushed into the field. But, if prices had been reduced, the idea that there was a speedy fortune to be made by defendant's stockholders would have been too speedily dispelled. Other devices were resorted to. The attempt to keep up the price of cans was persisted in. In an effort to do so, the defendant itself sent brokers into the market and bought some millions of cans from its rivals. Some of these were very badly made, as was to be expected from new shops, equipped with wretched machinery and hastily rushed into business. These cans were stored for a while, and ultimately such of them as were salable at all were sold for what they would bring. Possibly these purchases did keep up the price longer than would otherwise have been the case.

Following the practice which had been common before its day, and to put an end to which it now says was one of the principal objects of its formation, defendant raised its prices as the canning season of 1901 advanced, until they reached the maximum in August, September, and October of that year. Taking the price of tin plate into account, they were then roughly about 60% greater than the prices which from 1910 to 1913 prevailed, and for which cans had been purchased in a number of the years preceding defendant's formation. The defendant seems to have realized its mistake, and the 1902 prices were materially lower. In 1903, prices were again rather sharply raised, but by the close of the packing season of 1904 they had been brought down to a trifle above that which has been their subsequent average. By that time the opportunity absolutely to monopolize the market had been

lost. It is true that many, apparently the great majority, of the people who in 1901 rushed into can making were forced out of business, so soon as prices came down from the abnormal heights to which they had been lifted. The record contains quite a suggestive list of such concerns whose history was like that of the seed sown on stony ground; but there were others who went into the business with more resources, both in money and brains, and, consequently, with greater staying powers. The demand for can-making machinery had stimulated the supply, and, while the so-called "independents" were not until 1907 able to get the best automatic machinery, they could after 1902 obtain far better machines than were accessible to them in 1901. Moreover, tin-plate mills, other than those controlled by the Tin Plate Company, were being established. Those who were minded to stay in the can-making business as competitors with the defendant were free by this time from the apprehension that it could cut off their supplies of either tin plate or machinery. It doubtless could get the former cheaper and the latter better than they could, but it was greatly overcapitalized, and they might stay in the struggle with some reasonable chance of surviving.

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Not long after the defendant was formed, it made some contracts by which it undertook to supply a packer with all the cans he would require for a season at a price which was to remain fixed through the year, no matter how many he took. Many of these contracts contained provisions by which the cans taken early in the year would be furnished at a somewhat lower price than those which were not ordered until late in the season; but the prices, whether they varied with reference to the time of delivery or not, were fixed in advance. So far as one may judge from the record, the inauguration of this practice was more accidental than intentional. As already stated, during the first year of defendant's existence, it followed the old custom of the trade of raising its prices as the season progressed. During March and early April, it sold three-pound cans at $24 a thousand. On April 25 it advanced them to $24.50; on May 1, to $25. Another dollar was added on the 1st of June, and still another on the 1st of July, the price then being $27. On August 1, when the tomatoes were beginning to ripen, $3 a thousand more was put on, so that $30 was asked. That figure continued until November 1, when, Jack Frost having presumably put an end to most of the demand for packers' cans for that season, a drop of $7.50 a thousand was made; $2.50 more was taken off on December 1, so that the price when packing was going on was 50% greater than it was after the season had closed.

No clear statement of the circumstances under which originated the practice of contracting to furnish a packer with all the cans he would need for the season, at a price determined in advance, is found in the record, but its advantages from the standpoint of the consumer were so great that it speedily went into almost universal use, and, after defend-

ant's first year, there does not seem to have been anything more than a very moderate difference between its midwinter and its midsummer prices. Under the old method of selling, in years of bounteous crops, the canner would be required to pay for the extra cans he needed a price very much in excess of that ordinarily prevailing, while in years of scarcity of canable fruits and vegetables he would have cans on his hands which could be sold only at a material loss. Many consumers have testified. They are practically unanimous in their approval of the new method. They know in advance what the cans will cost them, and make their own contracts and arrangements accordingly. Only a large company can carry on business and sell cans in that way. Probably it can only safely do so when it has a number of factories located in different parts of the country. A shop, the possible production of which could not exceed a certain figure, could not well afford to do all its business under such contracts, because, if it did it would either have to limit its engagements, so that in years of ordinary consumption it would sell only a percentage of its possible output, or else would expose itself to the possibility of heavy damages in years when there was a large demand because it had contracted to furnish more cans than it could make. The larger the plant and resources of any particular can maker, the less dangerous such contracts would be to it. Even so, there would be risks, and serious ones at that, unless he had factories in different canning sections in which it was not likely the crop conditions would be precisely the same.

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. . . . The preferential rebates[1] received by the defendant from the Tin Plate Company in the period from 1902 to 1913 amounted to the large sum of $9,000,000. The answers of both the defendant and the Tin Plate Company claim that these transactions were normal and the allowances were those which would naturally be made to an exceedingly large consumer. The facts seem to show that the parties themselves did not so regard them. Tin plate was billed to the defendant at the fixed list price, and the rebate was subsequently paid. Great precautions were taken by the defendant to conceal the facts from most of its bookkeepers, and even from some of its officers. The rebates, when obtained, were entered upon the books of the defendant in such a way as to conceal their origin. During the early years of defendant's career, its competitors in most, if not all, instances, were compelled to pay the full list prices. It has often been possible, in recent years, for such competitors as were considerable consumers, and who were familiar with the conditions and knew how to bargain to advantage, to buy tin plate from the so-called "independents" at some cents below list figures. This was especially true, of course, at times when the demand for tin plate was relatively small. The amount of reduction they could secure depended upon circumstances and fre-

[1] For an instance of another type of rebate, see case of Standard Oil Company, page 548.

quently, probably usually, has been less than the amount of defendant's preferential. It has only seldom been more. . . .

. . . . The defendant still buys its tin plate at prices lower than the quoted prices of the Tin Plate Company; but it no longer has a right to require the Tin Plate Company to allow it such a reduction below any price at which the Tin Plate Company may sell to others. . . . .

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The like cannot be said as to what it did or caused the American Stopper Company to do. Since 1905, that company has been a subsidiary of the defendant. The fact was not publicly disclosed until 1909. During the intervening four years, the Stopper Company advertised itself as the largest maker of tin boxes "outside of the trust"; the trust, of course, being the defendant. Deliberate deception was also for years employed to conceal its ownership of the Union Stockyards Can Company, of Chicago. Defendant's control of this concern dates from November, 1906. Down until the close of 1909, if not longer, it was operated as an independent company. During this time one of the defendant's high officers conveyed its orders to the nominal head of the dependent company. By his directions, the connection between the two was kept secret. There were those in the trade who, nevertheless, guessed that there was some relation between them; but, as its manager testified, he lied down their suspicions. The reason for all this mystery was the usual one in such cases. The defendant wanted to use the Stockyards Can Company to fight its general line competitors in the Chicago district, while still maintaining its own prices. The manager of the subsidiary testified that, if he could get the trade of such competitors, without cutting prices, he was told to do so, but, if a cut was necessary, he was to make it.

There can be no question as to either the moral or legal character of such methods. Laying aside all ethical considerations, the wonder always is that a great company like defendant does not see that it cannot afford to be caught in such a position, and, in the long run, caught it is likely to be. The loss of dignity and prestige in the public eye must usually cost more than was gained, even if nothing worse happens. It is like enough to suffer from lowering the moral tone of its own employees. The practice referred to, however, ceased three years or more before the institution of these proceedings.

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The Government alleges that, ever since the defendant was formed, it has controlled, and at times has increased, the general market prices of cans. It is charged that not only does it fix the price of the output of the plants controlled by it, but that so great is its predominance in the industry that those prices are followed of necessity by the independent manufacturers, and thus all substantial price competition is eliminated. It is said that defendant has exercised, and at the time of the filing of the petition, was still exercising, this control to lower or raise unduly and arbitrarily the price of its product. There is no

question that since 1901 the defendant has very largely fixed the price at which packers' cans have been sold throughout the United States. It has competitors who now sell approximately one-half the cans which are sold in the country. There is no evidence of any price agreement between it and them. There is no reason to think that there is on this subject any understanding of any kind, however vague or indefinite. Nevertheless, the prices it fixes are the standard prices from ocean to ocean and from the Lakes to the Gulf. It is impossible, except under very peculiar circumstances in extremely limited amounts, and during the shortest periods, for anybody to get more for packers' cans than defendant charges. Its largest competitor is the Continental Can Company. The latter sells nearly one-fourth of the cans not sold by defendant. So far as packers' cans are concerned, it appears always strictly to follow the defendant's prices. The record mentions a few instances of alleged price cutting by the Continental Can Company. These instances are so rare and so obviously opposed to the general trend of its policy that it appears probable that with one exception the witnesses who testified as to them misunderstood the facts or did not accurately recall them. It did sell the makers of the Campbell's soups, who were very large consumers, at perhaps 20 cents a thousand below defendant's prices. The Continental Can Company was organized in 1904 very largely by Edwin Norton, who played so conspicuous a part in starting the defendant. There is no evidence that the Continental Can Company's strict adherence to the prices fixed by the defendant is the result of any agreement or understanding. It is possible that it is due entirely to the belief of the well-informed managers of the Continental that a trade war carried on by cutting prices would not be to its advantage. A number of the smaller competitors of defendant, concerns the total output of each of which does not exceed perhaps one-twentieth of its output, sell their cans at defendant's prices when they can, and, when they cannot, they cut those prices anywhere from 25 cents to $1.50 a thousand. They never drop much lower. It may be that their cost of production prevents. It may be that, if they named prices sufficiently attractive to draw much trade from defendant, they would get more than they could handle. If they attempted rapidly to extend their facilities, a sudden drop in defendant's prices might catch them in a position in which they would be in deadly peril of financial ruin. They never name their prices for the year until the defendant's have been made public. On the other hand, the potential, if not the actual, competition to which defendant is exposed, prevents it from arbitrarily fixing its prices at a higher figure. The experience which it had at its formation has taught it that such a course is, from its own standpoint, unwise and may be disastrous.

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Defendant has directed much of the nine volumes of testimony it has offered to show that, whatever criticisms might be made as to the way in which it was formed, and to certain of its isolated acts since, it has,

on the whole, served the can trade well, and that its dissolution would do harm and not good. There is no room for question that since 1901 there have been many improvements, not only in can making, but in can selling and in can delivery as well, and that these improvements are greatly appreciated by all who buy cans from can makers. There is the usual difficulty, in such cases, in telling how much of these good things are because of that which defendant has done and how much would have come about if defendant had never been thought of. . . . . A reduction in the price of cans does not appear to be among the benefits the defendant has conferred upon the trade.

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It is impossible to say how much of the improvement in the quality of cans and in adapting them to varied uses is due to the defendant, and how much to other causes. It is, however, certain that its influence has been an important factor in bettering these conditions.

The defendant claims, with much reason, to have been the first of the can makers systematically and scientifically to study canners' problems with a view to discovering the causes of damage to and deterioration in canned goods. It says it has done more in that direction than any of its competitors, or all of them together. A number of years ago the defendant established a laboratory for the investigation of such matters. It has always been ready and willing to use the resources of this laboratory to aid canners, without expense to the latter and whether they bought their cans from it or not. When, some years ago, the National Canners' Association made up its mind that it would like to establish and maintain a well-equipped and efficiently managed laboratory at Washington, the defendant, and, for that matter, its principal competitors, furthered the project by contributing liberally, apparently in some rough proportion to the number of packers' cans sold by each.

From the canner's standpoint, the most important respect in which the condition of the industry has, since 1901, changed for the better, has been the practically universal substitution of the agreement to supply all cans needed by a packer during a particular season for the theretofore existing practice of contracting for a definite number of cans. This change has been highly beneficial. It would have been difficult, if not impossible, to have brought it into general use, so long as the can factories were on the average as small as they were in the last century. All the larger and stronger can makers in the business now follow it. As has already been intimated, it may be doubtful whether some of these could safely do so today if they did not feel that, even in seasons of unusually and unexpectedly large crops of canable products, the defendant would be able and willing to supply their customers at reasonable prices with any cans which they might not be able to furnish.

Almost every canner of food products, out of the hundreds who have testified in this case, and many who use cans for other purposes,

are emphatic as to the supreme importance of prompt deliveries. Many users of cans have limited storage facilities. They cannot take in many at a time. A delay in the arrival of cans may mean to them the entire loss of the product which was to be packed. Fire, flood, or other accidents may put a stop to the operation of any one can factory. The defendant has many shops, most of its competitors but one. The probability of its delivery of cans being altogether prevented by a factory accident is therefore almost negligible. Prompt delivery at short notice cannot, however, be assured unless the can factory is near the place of consumption. If there is a long railroad journey between, accidents and mistakes on the lines may postpone the arrival of cans which have been shipped in due season. The testimony shows that for this reason users of cans often prefer to deal with a neighboring factory, whether of the defendant or one of its competitors, in preference to buying cheaper elsewhere. The defendant has always given special attention to insuring prompt deliveries, and aparently has been rather unusually successful in so doing. Moreover, it stands ready to do its best to furnish cans on the shortest notice to any one who wants a carload or many carloads, and at its published prices. The failure of prompt delivery from one of its factories, or from a factory of one of its competitors, is no longer by any means so serious a matter as such an event formerly might have been. From one or the other of its shops the defendant is usually able in brief space to place the cans where they are needed. No concern which had not a number of plants and ample resources, both in men and money, could have done what the defendant has accomplished in protecting can users against serious delays in delivery. Perhaps this has been its most valuable service to the trade.

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A man or an institution may be of great service to the community, or to a portion of it, and still be very unpopular in it. He is likely to be if those who are served feel themselves compelled to do things, even although those things are for their own good. The evident good feeling between defendant and its customers and competitors proves that neither can makers nor can users feel that for a number of years defendant has tried to force them to do anything. The defendant asked a great many witnesses, a hundred or more, doubtless, whether they thought its dissolution would be desirable. None of them answered yes. Some of them did not know whether it would be or not. An overwhelming majority testified that such a dissolution would be hurtful to the industry. It is true that not many of them who so said could give convincing or conclusive reasons for the opinion that they expressed, but the fact remains that nobody in the trade feels that the defendant is hurting anybody, or for a number of years past has hurt anybody, or has tried to.

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The competitors of the defendant are satisfied. It apparently is willing to sell cans at a price at which they can compete with it and

still make money. As has sometimes been suggested, it seems to hold an umbrella over them. They have no cause to complain. They are growing, most of them. All the more important certainly are.

In 1913, in round numbers, one-third of the cans manufactured in the United States were made by people who used those they made. One-third were made by the defendant, the other one-third by other people who, like it, made cans to sell. . . . .

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One who sells only one-half of the cans that are sold does not, of course, possess a monopoly in the same sense as he would if he sold all or nearly all of them. Yet he may have more power over the industry than it is well for any one concern to possess. . . . .

If it be true that size and power, apart from the way in which they were acquired, or the purpose with which they are used, do not offend against the law, it is equally true that one of the designs of the framers of the Anti-Trust Act was to prevent the concentration in a few hands of control over great industries. They preferred a social and industrial state in which there should be many independent producers. Size and power are themselves facts some of whose consequences do not depend upon the way in which they were created or in which they are used. It is easy to conceive that they might be acquired honestly and used as fairly as men who are in business for the legitimate purpose of making money for themselves and their associates could be expected to use them, human nature being what it is, and for all that constitute a public danger, or at all events give rise to difficult, social, industrial, and political problems.

The law wishes that industrial and trading corporations shall operate under the checks and balances imposed by free and unrestrained competition. Doubtless, no one is blind to the evil which such competition itself brings with it, precisely as no thoughtful man can close his eyes to the difficulties which some of our constitutional checks and balances put in the way of securing an ideally efficient government. Congress wished to preserve competition because, among other reasons, it did not know what to substitute for the restraints competition imposes. It has not accepted the suggestions of some influential men that the control of a certain percentage of industry should be penalized. It has not yet been willing to go far in the way of regulating and controlling corporations merely because they are large and powerful, perhaps because many people have always felt that government control is in itself an evil, and to be avoided whenever it is not absolutely required for the prevention of greater wrong.

The problem presented by size and power is one of such far-reaching difficulty that Congress has said, while it does not see how to deal with them when acquired in the legitimate expansion of a lawful business, it will prevent their illegitimate and unnatural acquirement by any attempt to restrain trade or monopolize industry. Perhaps the framers of the Anti-Trust Act believed that, if such illegitimate attempts were

effectively prevented, the occasions on which it would become necessary to deal with size and power otherwise brought about would be so few and so long postponed that it might never be necessary to deal with them at all. In administering the Anti-Trust acts, a number of great and powerful offenders against them have been dissolved.[1] So far as is possible to judge, the consuming public has not as yet greatly profited by their dissolution. It is perhaps not likely that any benefit would have been expected until in the slow course of time the ownership of the newly created corporations gradually drifted into different hands. In most of the cases in which dissolution has been decreed, the defendants had, not long before proceedings against them were instituted, done things which evidenced their continued intent to dominate and restrain trade by the use of methods which interfered more or less seriously with the reasonable freedom of their customers or their competitors.

As has been shown, defendant for a number of years past has done nothing of the sort. While it had its origin in unlawful acts and thereby acquired a power which may be harmful, and the acquisition of which in any event was contrary to the policy of Congress as em-

[1] [For instance, in a decree (1909) upheld in its chief aspects by the Supreme Court of the United States (1911), the Circuit Court of the United States for the Eastern Division of the Eastern Judicial District of Missouri had ordered the dissolution of a combination formed by seven individuals, among them John D. Rockefeller, who had united with the Standard Oil Company of New Jersey and others to acquire control of 19 other corporations organized under the laws of various states and engaged in commerce in petroleum and its products either among the states, or in the territories, or with foreign nations. Through the ownership of a majority of the stock of the 19 corporations, acquired by the Standard Oil Company of New Jersey, the defendants had been able successfully to suppress competition between those companies and their subsidiaries. In order to force dissolution of the combination, the court enjoined the defendants from exercising any control over the individual corporations, and from receiving any dividends from those companies. The defendants further were ordered not in any way again to obtain such control over competing companies as would result, or tend to result, in obtaining an unlawful monopoly over the petroleum industry. *United States* v. *Standard Oil Company of New Jersey,* 153 Fed. 290, 173 Fed. 177, 221 U. S. 1.

In 1911, also, the Circuit Court of the United States for the Southern District of New York, received a mandate from the Supreme Court of the United States ordering the Circuit Court, in the case of the American Tobacco Company and others, to "hear the parties . . . . for the purpose of ascertaining and determining upon some plan or method of dissolving the combination, and of recreating out of the elements now composing it a new condition which shall be honestly in harmony with . . . . the law, but without unnecessary injury to the public or the rights of private property." It previously had been held that the defendants, the American Tobacco Company, American Snuff Company, American Cigar Company, American Stogie Company, and MacAndrews and Forbes Company, had entered into combinations in restraint of trade among the several states and with companies in foreign countries in leaf tobacco and allied products; and that each of the defendants, through stock-ownership of other corporations, was itself a combination in violation of law. Other defendants, whose transactions had been shown to be exclusively in foreign countries, were dismissed. The dissolution plan approved by the court did not require that each of the defendant corporations, including the subsidiaries, be operated as an isolated unit, but rather provided for the creation

bodied in the statute, it has for some time past used that power, on the whole, rather for weal than for woe. In this case, if a dissolution be decreed, it will have as its sole reason the carrying out of the policy of Congress that a trading or industrial corporation shall not, by an attempt to restrain or monopolize trade, become so powerful that it exerts an influence on the industry far greater than that of any of its competitors. . . . .

1. Should the court have ordered that the American Can Company be dissolved into a number of independent companies?

2. Is the power of a monopoly or combination to injure the public interest restricted to its control over prices?

2. Maple Flooring Manufacturers' Association *et al.*, *v.* United States[1]

TRADE ASSOCIATION ACTIVITIES NOT IN RESTRAINT OF COMMERCE

Mr. Justice Stone delivered the opinion of the court.

By bill in equity filed March 5, 1923, the United States asked an injunction restraining the defendants, who are appellants here, from violating Section 1 of the Act of Congress of July 2, 1890, entitled, "An act to protect trade and commerce against unlawful restraints and monopolies," 26 Stat. 209 (Comp. St. §8820), commonly known as the Sherman Act.

and for the operation of 14 separate corporations, each to acquire specified assets of the defendants, and to engage in transactions permitted by the court. Suitable transfers of ownership were arranged; and no unlawful control over any of the 14 corporations was to be sought by the others. 164 Fed. 700, 191 Fed. 371, 221 U. S. 106.

On March 1, 1920, the Supreme Court of the United States decided, with reference to the United States Steel Corporation, briefly as follows: The corporation, a holding company controlling the operations of numerous subsidiaries, attained power much greater than that of any one competitor, but not greater than that possessed by them all; that formation of an industrial corporation with the expectation of its becoming a monopoly, did not make it a monopoly; that though it had joined with competitors, sometimes successfully, to fix and maintain prices, especially by means of pools, associations, trade meetings, and finally a series of dinners, called by the president of the company, E. H. Gary, and known as the "Gary Dinners," those practices were abandoned because of their futility before the suit began, and no intention to resume them, or dangerous probability of their resumption, was shown by the evidence. The corporation, at the time of the decision, was not in itself or by its conduct offensive to the statute, and to destroy the combination, or separate some of its subsidiaries, would defeat the public interest by destroying or impairing the investments made by the public, and the foreign trade and other developments made during the 10 years before the government began its legal attack. The government's petition for the dissolution of the corporation was therefore denied. 251 U. S. 436.]

[1] Supreme Court of the United States. Reargued March 3, 1925. Decided June 1, 1925. 45 Sup. Ct. 578.

The defendants are the Maple Flooring Manufacturers' Association, an unincorporated "trade association"; 22 corporate defendants, members of the association, engaged in the business of selling and shipping maple, beech, and birch flooring in interstate commerce, all but 2 of them having their principal places of business in Michigan, Minnesota, or Wisconsin (one defendant being located in Illinois and one in New York); the several individual representatives of the corporate members of the association; and George W. Keehn, secretary of the association. Of the corporate defendants, approximately one-half own timber lands and sawmills and are producers of the rough lumber from which they manufacture finished flooring, sold and shipped in interstate commerce. The other defendants purchase rough flooring lumber in the open market and manufacture it into finished flooring which is sold and shipped in interstate commerce. In 1922 there were in the states of Illinois, Michigan, Minnesota, and Wisconsin, 17 nonmember manufacturers of maple, beech, and birch flooring, and there were 58 nonmember manufacturers of maple, beech, and birch flooring in the United States who reported to the government. In that year 38 nonmember manufacturers reported a manufacturing capacity of 238,610,000 feet of flooring of the types mentioned, and during the same year the manufacturing capacity of the defendants was 158,400,000 feet. Estimates submitted in behalf of the government indicate that in the year 1922 the defendants produced 70% of the total production of these types of flooring, the percentage having been gradually diminished during the five years preceding, the average for the five years being 74.2%. It is also in evidence that aside from nonmember manufacturers who reported to the government, there are numerous other nonmember manufacturers of such flooring in the United States and Canada. The defendants own only a small proportion of the total stand, in the United States, of maple, beech, and birch timber from which the various types of flooring produced and sold by defendants is manufactured.

. . . . The activities, however, of the present association of which the government complains may be summarized as follows:

1. The computation and distribution among the members of the association of the average cost to association members of all dimensions and grades of flooring.

2. The compilation and distribution among members of a booklet showing freight rates on flooring from Cadillac, Michigan, to between 5,000 and 6,000 points of shipment in the United States.

3. The gathering of statistics which at frequent intervals are supplied by each member of the association to the secretary of the association giving complete information as to the quantity and kind of flooring sold and prices received by the reporting members, and the amount of stock on hand, which information is summarized . . . . and transmitted to members without, however, revealing the identity of the members in connection with any specific information thus transmitted.

4. Meetings at which the representatives of members congregate and discuss the industry and exchange views as to its problems.

Before considering these phases of the activities of the association, it should be pointed out that it is neither alleged nor proved that there was any agreement among the members of the association either affecting production, fixing prices, or for price maintenance. Both by the articles of association and in actual practice, members have been left free to sell their product at any price they choose and to conduct their business as they please. Although the bill alleges that the activities of the defendants hereinbefore referred to resulted in the maintenance of practical uniformity of net delivered prices as between the several corporate defendants, the evidence fails to establish such uniformity, and it was not seriously urged before this court that any substantial uniformity in price had in fact resulted from the activities of the association, although it was conceded by defendants that the dissemination of information as to cost of the product and as to production and prices would tend to bring about uniformity in prices through the operation of economic law. Nor was there any direct proof that the activities of the association had affected prices adversely to consumers. On the contrary, the defendants offered a great volume of evidence tending to show that the trend of prices of the product of the defendants corresponded to the law of supply and demand and that it evidenced no abnormality when compared with the price of commodities generally. There is undisputed evidence that the prices of members were fair and reasonable and that they were usually lower than the prices of nonmembers, and there is no claim that defendants were guilty of unfair or arbitrary trade practices.

The contention of the government is that there is a combination among the defendants, which is admitted; that the effect of the activities of the defendants carried on under the plan of the association must necessarily be to bring about a concerted effort on the part of members of the association to maintain prices at levels having a close relation to the average cost of flooring reported to members; and that consequently there is a necessary and inevitable restraint of interstate commerce; and that therefore the plan of the association itself is a violation of Section 1 of the Sherman Act, which should be enjoined regardless of its actual operation and effect so far as price maintenance is concerned. The case must turn, therefore, on the effect of the activity of the defendants in the gathering and dissemination of information as to the cost of flooring, since, without that, the other activities complained of could have no material bearing on price levels in the industry and it was to this phase of the case that the oral argument was mainly directed.

. . . . . .

. . . . All reports of sales and prices dealt exclusively with past and closed transactions. The statistics gathered by the defendant association are given wide publicity. They are published in trade journals

which are read by from 90% to 95% of the persons who purchase the products of association members. They are sent to the Department of Commerce, which publishes a monthly survey of current business. They are forwarded to the Federal Reserve and other banks and are available to any one at any time desiring to use them. It is to be noted that the statistics gathered and disseminated do not include current price quotations; information as to employment conditions; geographical distribution of shipments; the names of customers or distribution by classes of purchasers; the details with respect to new orders booked, such as names of customers, geographical origin of orders; or details with respect to unfilled orders, such as names of customers, their geographical location; the names of members having surplus stocks on hand; the amount of rough lumber on hand; or information as to cancellation of orders. Nor do they differ in any essential respect from trade or business statistics which are freely gathered and publicly disseminated in numerous branches of industry producing a standardized product such as grain, cotton, coal oil, and involving interstate commerce whose statistics disclose volume and material elements affecting costs of production, sales price, and stock on hand.

. . . . . .

. . . . As already indicated, the record is barren of evidence tending to establish that there is any agreement or purpose or intention on the part of defendants to produce any effect upon commerce other than that which would necessarily flow from the activities of the present association, and in our view the government must stand or fall upon its ability to bring the facts of the present case within the rule as laid down in *American Column Company* v. *United States,* 257 U. S. 377, 42 S. Ct. 114, 66 L. Ed. 284, 21 A. L. R. 1093, where it was said at page 400, 42 S. Ct. 117:

> It has been repeatedly held by this court that the purpose of the statute is to maintain free competition in interstate commerce and that any concerted action by any combination of men or corporations to cause, or which in fact does cause, direct and undue restraint of competition in such commerce falls within the condemnation of the act and is unlawful,

—and within the rule laid down by the court in *United States* v. *American Linseed Oil Company,* 262 U. S. 371, at page 390, 43 S. Ct. 607, at page 611, 67 L. Ed. 1035:

> In the absence of a purpose to monopolize or the compulsion that results from contract or agreement, the individual certainly may exercise great freedom; but concerted action through combination presents a wholly different problem and is forbidden when the necessary tendency is to destroy the kind of competition to which the public has long looked for protection.

It should be noted that the bill of complaint neither charges, nor does the government urge, that there was any purpose on the part of the defendants to monopolize commerce in maple, beech, and birch flooring. It is not contended that there was the compulsion of any agreement fixing prices, restraining production or competition, or otherwise restraining interstate commerce. In our view, therefore, the sole question presented by this record for our consideration is whether the combination of the defendants in their existing association as actually conducted by them has a necessary tendency to cause direct and undue restraint of competition in commerce falling within the condemnation of the act. In urging that such is the necessary effect, the government relies mainly upon the decisions of this court in *Eastern States Retail Lumber Dealers' Association* v. *United States,* 234 U. S. 600, 34 S. Ct. 951, 58 L. Ed. 1490, L. R. A. 1915A, 788; *American Column & Lumber Company* v. *United States, supra;* and *United States* v. *American Linseed Oil Company, supra.*

It should be said at the outset that in considering the application of the rule of decision in these cases to the situation presented by this record, it should be remembered that this court has often announced that each case arising under the Sherman Act must be determined upon the particular facts disclosed by the record, and that the opinions in those cases must be read in the light of their facts and of a clear recognition of the essential differences in the facts of those cases, and in the facts of any new case to which the rule of earlier decisions is to be applied.

In *Eastern States Retail Lumber Dealers' Association* v. *United States, supra,* the defendant members of the association had entered into a combination and agreement whereby members were required to report to the association the names of wholesale dealers in lumber who sold their product directly to consumers. The names of the offending wholesalers were placed upon a "black list" which was circulated among the members of the association. The name of a blacklisted wholesaler could be removed from the list only on application to the secretary of the association and on assurance that the offending wholesaler would no longer sell in competition with retailers. It was conceded by the defendants, and in the court below found, that the circulation of this information would have a natural tendency to cause retailers receiving these reports to withhold patronage from listed concerns; that it therefore, necessarily, tended to restrain wholesalers from selling to the retail trade, which in itself was an undue and unreasonable restraint of commerce. Moreover, the court said, at page 612, 34 S. Ct. 956:

> This record abounds in instances where the offending dealer was thus reported, the hope for effect, unless he discontinued the offending practice, realized, and his trade directly and appreciably impaired.

There was thus presented a case in which the court could not only see that the combination would necessarily result in a restraint on

commerce which was unreasonable, but where in fact such restraints had actually been effected by the concerted action of the defendants.

In *American Column & Lumber Company* v. *United States, supra,* . . . . the secretary of the association, in communications to members, actively urged curtailment of production and increase of prices. The record disclosed a systematic effort, participated in by the members of the association and led and directed by the secretary of the association, to cut down production and increase prices. The court not only held that this concerted effort was in itself unlawful, but that it resulted in an actual excessive increase of price to which the court found the "united action of this large and influential membership of dealers contributed greatly." The opinion of the court in that case rests squarely on the ground that there was a combination on the part of the members to secure concerted action in curtailment of production and increase of price, which actually resulted in a restraint of commerce, producing increase of price.

In *United States* v. *American Linseed Oil Company, supra,* . . . . it was held that the agreement for price maintenance accompanied by free exchange of information between competitors as to current prices of the product offered for sale; full details as to purchasers, actual and prospective; and the exchange of information as to buyers and those to whom offerings were made by sellers and of the terms of such offerings, could necessarily have only one purpose and effect; namely, to restrain competition among sellers. The court said, at page 389, 43 S. Ct. 611:

> If, looking at the entire contract by which they are bound together, in the light of what has been done under it the court can see that its necessary tendency is to suppress competition in trade between the states, the combination must be declared unlawful. That such is its tendency, we think, must be affirmed.

It is not, we think, open to question that the dissemination of pertinent information concerning any trade or business tends to stabilize that trade or business and to produce uniformity of price and trade practice. Exchange of price quotations of market commodities tends to produce uniformity of prices in the markets of the world. Knowledge of the supplies of available merchandise tends to prevent overproduction and to avoid the economic disturbances produced by business crises resulting from overproduction. But the natural effect of the acquisition of wider and more scientific knowledge of business conditions, on the minds of the individuals engaged in commerce and its consequent effect in stabilizing production and price, can hardly be deemed a restraint of commerce, or, if so, it cannot, we think, be said to be an unreasonable restraint, or in any respect unlawful.

It is the consensus of opinion of economists and of many of the most important agencies of government that the public interest is served by the gathering and dissemination, in the widest possible manner, of information with respect to the production and distribution,

cost and prices in actual sales, of market commodities because the making available of such information tends to stabilize trade and industry, to produce fairer price levels, and to avoid the waste which inevitably attends the unintelligent conduct of economic enterprise. "Free competition" means a free and open market among both buyers and sellers for the sale and distribution of commodities. Competition does not become less free merely because the conduct of commercial operations becomes more intelligent through the free distribution of knowledge of all the essential factors entering into the commercial transaction.[1] General knowledge that there is an accumulation of surplus of any market commodity would undoubtedly tend to diminish production, but the dissemination of that information cannot in itself be said to be restraint upon commerce in any legal sense. The manufacturer is free to produce, but prudence and business foresight based on that knowledge influence free choice in favor of more limited production. Restraint upon free competition begins when improper use is made of that information through any concerted action which operates to restrain the freedom of action of those who buy and sell.

It was not the purpose or the intent of the Sherman Anti-Trust Law to inhibit the intelligent conduct of business operations, nor do we conceive that its purpose was to suppress such influence as might affect the operations of interstate commerce through the application to them of the individual intelligence of those engaged in commerce, enlightened by accurate information as to the essential elements of the economics of a trade or business, however gathered or disseminated. Persons who unite in gathering and disseminating information in trade journals and statistical reports on industry, who gather and publish statistics as to the amount of production of commodities in interstate commerce, and who report market prices, are not engaged in unlawful conspiracies in restraint of trade merely because the ultimate result of their efforts may be to stabilize prices or limit production through a better understanding of economic laws and a more general ability to conform to them, for the simple reason that the Sherman Law neither repeals economic laws nor prohibits the gathering and dissemination of information. Sellers of any commodity who guide the daily conduct of their business on the basis of market reports would hardly be deemed to be conspirators engaged in restraint of interstate commerce. They would not be any the more so merely because they became stockholders in a corporation or joint owners of a trade journal, engaged in the business of compiling and publishing such reports.

. . . . . .

We realize that such information, gathered and disseminated among the members of a trade or business, may be the basis of agreement or concerted action to lessen production arbitrarily or to raise prices be-

[1] See a suggestive analysis of the Competitive System by various economists collected and commented on in Marshall's *Readings on Industrial Society*, 294, 419, 479, 498, 935. See Hobson, *The Evolution of Modern Capitalism*, 403, 5; *Elementary Principles of Economics*, Irving Fisher, 427 *et seq.*

yond the levels of production and price which would prevail if no such agreement or concerted action ensued, and those engaged in commerce were left free to base individual initiative on full information of the essential elements of their business. Such concerted action constitutes a restraint of commerce and is illegal and may be enjoined as may any other combination or activity necessarily resulting in such concerted action as was the subject of consideration in *American Column & Lumber Company* v. *United States, supra,* and *United States* v. *American Linseed Oil Company, supra.* But in the absence of proof of such agreement or concerted action having been actually reached or actually attempted, under the present plan of operation of defendants we can find no basis in the gathering and dissemination of such information by them or in their activities under their present organization for the inference that such concerted action will necessarily result within the rule laid down in those cases.

We decide only that trade associations or combinations or persons or corporations which openly and fairly gather and disseminate information as to the cost of their product, the volume of production, the actual price which the product has brought in past transactions, stocks of merchandise on hand, approximate cost of transportation from the principal point of shipment to the points of consumption as did these defendants and who, as they did, meet and discuss such information and statistics without however reaching or attempting to reach any agreement or any concerted action with respect to prices or production or restraining competition, do not thereby engage in unlawful restraint of commerce.

The decree of the District Court [decreeing the dissolution of the defendants and enjoining them from engaging in the activities complained of by the government] is reversed.

Mr. Chief Justice TAFT, Mr. Justice SANFORD, and Mr. Justice MCREYNOLDS dissent.[1]

Which side would you have supported?

[1] Dissenting opinions omitted here.

XXXII

FAIR AND UNFAIR COMPETITION

Clay, 355-365, 418-445; Edie, 745-768; Ely, 24, 224-233; Fairchild, II, 61-63; Rufener, 300-304; Seager, 479-481, 491-502; Seligman, 139-153, 640-642; Taussig, II, 441-463; Turner, 67-73, 611-631.

1. Federal Trade Commission *v.* Beech-Nut Packing Company[1]

PRICE MAINTENANCE METHODS AS UNFAIR COMPETITION

Mr. Justice Day delivered the opinion of the court:

This case is here upon a writ of certiorari to the United States Circuit Court of Appeals for the Second Circuit, which court set aside an order of the Federal Trade Commission requiring the Beech-Nut Packing Company, a corporation engaged in the manufacture and sale of food and other products throughout the United States, to cease and desist from carrying out a plan of resale of its products.[2] *Beech-Nut Packing Company* v. *Federal Trade Commission,* 264 Fed. 885.

The Commission condemned the plan as an unfair method of competition within the meaning of section 5 of the Federal Trade Commission Act. 38 Stat. 719 (Comp. St.§8836e).

In the original complaint it was charged that in order to accomplish the illegal purpose intended the Beech-Nut Company required its pur-

[1] Supreme Court of the United States. Argued November 10-14, 1921. Decided January 3, 1922. 42 Sup. Ct. 150. 257 U. S. 441.

[2] "Now, therefore, it is ordered that respondent, the Beech-Nut Packing Company, its officers, directors, agents, servants, and employees cease and desist from directly or indirectly recommending, requiring, or by any means bringing about the resale of Beech-Nut products by distributors, whether at wholesale or retail according to any system of prices fixed or established by respondent, and more particularly by any or all of the following means:

"1. Refusing to sell to any such distributors because of their failure to adhere to any such system of resale prices.

"2. Refusing to sell to any such distributors because of their having resold respondent's said products to other distributors who have failed to adhere to any such system of resale prices.

"3. Securing or seeking to secure the cooperation of its distributors in maintaining or enforcing any such system of resale prices.

"4. Carrying out or causing others to carry out a resale price maintenance policy by any other means."

chasers to agree to maintain or resell such products at standard selling prices, and that for the purpose of maintaining such standard resale prices and for the purpose of inducing and compelling its customers to maintain and keep such standard prices the company refused to sell its products to customers and dealers who would not agree to maintain such specified standard resale prices, and who did not resell such products at the specified standard selling prices fixed and determined by the company. By stipulation before trial the complaint was amended so as to charge: That the Beech-Nut Company has adopted and enforced a system of fixing and maintaining certain specified standard prices at which its chewing gum and food products shall be resold by purchasers thereof, including jobbers, wholesalers, and retailers, with the purpose and effect of securing the trade of such jobbers, wholesalers, and retailers and of enlisting their active support and cooperation in enlarging the sale of respondent's products, to the prejudice of its competitors who do not require and enforce the maintenance of resale prices for their products; and with the purpose and effect of eliminating competition in prices among all jobbers, wholesalers, and retailers, respectively, engaged in handling the products manufactured by the company, thereby depriving such distributors of their right to sell, and preventing them from selling its products at such prices as they may deem to be, and as are, adequate and warranted by their respective selling costs and efficiency, and with various other effects, and that the company as a means of making effective its system of resale prices and of inducing and compelling its customers and the dealer customers of its customers to maintain such resale prices, has for more than two years last past: Made it generally known to jobbers, wholesalers, and retailers, respectively, that it required and insisted that they should sell its products at the resale prices so fixed by it, and refused to sell to jobbers, wholesalers, or retailers not maintaining such prices; that the company threatened to and did refuse to sell to all jobbers, wholesalers, and retailers who failed to maintain the resale prices so fixed by it, or who sold to other distributors who failed to maintain such prices; induced or compelled the jobbers, wholesalers, and retailers, by divers other means, not only to maintain its resale prices so fixed, but also to discontinue selling its products to other jobbers, wholesalers, and retailers who did not maintain such resale prices; that the company caused the diversion of retailers' orders away from jobbers and wholesalers who did not maintain such resale prices so fixed by it, or who resold its products to other jobbers, wholesalers, or retailers who had failed to maintain such resale prices, and caused such orders to be given to other jobbers and wholesalers who had maintained such resale prices and/or had refused to supply other jobbers, wholesalers, and retailers failing to maintain such prices; that the company solicited and secured the cooperation of wholesalers, jobbers, and retailers in reporting price-cutters, all in pursuance of its efforts to ascertain the names of all distributors of its products who had failed to maintain the resale prices fixed by it, and/or who

had resold to other jobbers, wholesalers, and retailers failing to maintain such prices; that it entered in card records kept by it the names of all dealers reported to it, either in this or other ways, as not maintaining its resale prices or as selling to other distributors not maintaining such prices, and has taken various measures to prevent all such dealers from obtaining further shipments of its products from any source until it has received from them declarations, promises, assurances, statements, or other similar expressions, to the effect that in the future such dealers intend to and will sell such products at the resale prices fixed by the company and will refrain from selling the same to other jobbers, wholesalers, and retailers failing to maintain such prices; that respondent employed various other means and methods for the enforcement of its system of maintaining resale prices.

The case was heard before the Commission upon an agreed statement of facts, from which, among other things, it found:

The Beech-Nut Packing Company customarily markets its products principally through jobbers and wholesalers in the grocery, drug, candy and tobacco lines, who in turn resell to retailers in these lines. Such wholesale and retail dealers are selected as desirable customers because they are known or believed to be of good credit standing; willing to resell at the resale prices suggested by the company and who do resell at such prices; are willing to refuse to sell and who do refuse to sell to jobbers, wholesalers, and retailers who do not sell at the resale prices suggested by the company, and who do not sell to such jobbers, wholesalers, and retailers, who in other respects are good and satisfactory merchandisers. Such jobbers, wholesalers, and retailers are designated by the company as "selected" or "desirable" dealers. In a few instances the company also sells "direct" to certain large retailers who are selected as the jobbers, wholesalers, and retailers. The total number of such dealers, handling the products of the company, includes the greater portion of the jobbers, wholesalers, and retailers, respectively, in the grocery trades, and a large proportion of the jobbers, wholesalers, and retailers in the drug, candy, and tobacco trades, respectively, throughout the United States.

The company had adopted and maintained, and still maintained at the time complaint was filed by the Commission, in the sale and distribution of its products a policy known as the "Beech-Nut policy," and requests the cooperation therein of all dealers selling the products manufactured by it, dealing with each customer separately.

In order to secure such cooperation and to carry out the Beech-Nut policy the company:

Issues circulars, price-lists, and letters to the trade generally showing suggested uniform resale prices, both wholesale and retail, to be charged for Beech-Nut products.

Requests and insists that the selected jobbers, wholesalers, and retailers sell only to such other jobbers, wholesalers, and retailers as have been and are willing to resell and do resell at the prices so suggested by

the company, and requests and insists that such jobbers, wholesalers, and retailers discontinue selling to other jobbers, wholesalers, and retailers who fail to resell at the prices so suggested by the company.

Makes it known broadcast to such selected jobbers, wholesalers, and retailers, whether sold "direct" or not, that if they, or any of them fail to sell at the resale prices suggested by the company, it will absolutely refuse to sell further supplies of its product to them, or any of them, and will also absolutely refuse to sell to any jobbers, wholesalers, and retailers whatsoever who sell to other jobbers, wholesalers, and retailers failing to resell at the prices suggested by the company.

The company, in carrying out its policy has refused and does refuse to sell its products to practically all such jobbers, wholesalers, and retailers as do not sell at the prices so suggested by it. It has refused and does refuse to sell to practically all such jobbers, wholesalers, and retailers reselling to other jobbers, wholesalers, and retailers who have failed to resell at the prices so suggested by it. It has refused and does refuse to sell to practically all so-called mail-order houses engaged in interstate commerce, on the ground that such mail-order houses frequently sell at cut prices, and has refused and does refuse to sell to practically all jobbers, wholesalers, and retailers who sell its products to such mail-order houses. It has refused and does refuse to sell to practically all so-called price-cutters. It has maintained and does maintain a large force of so-called specialty salesmen or representatives who call upon the retail trade and solicit orders therefrom to be filled through jobbers and wholesalers, which orders are commonly known in the trade as "turnover orders;" its salesmen, under respondent's instructions, have refused and do refuse to accept any such turnover orders to be filled through jobbers and wholesalers who themselves sell or have sold at less than the suggested resale prices, or sell or have sold to jobbers, wholesalers, and retailers who sell or have sold at less than such suggested resale prices, and in such cases has requested such retailers to name other jobbers.

The company has and does reinstate as distributors of its products jobbers, wholesalers, and retailers previously cut off or withdrawn from the list of selected jobbers, wholesalers, and retailers for failure to resell at the prices suggested by it, and for selling to distributors who do not maintain such suggested resale prices, upon the basis of declarations, assurances, statements, promises, and similar expressions, as the case may be by such distributors, respectively, who satisfy the company that such distributors will thereafter resell at the prices suggested by it and will refuse to sell to distributors who do not maintain such suggested resale prices.

The company has added and does add, to its list of new distributors, concerns reported by its representatives as declaring that they intend to and will resell at the prices suggested by it, and will refuse to sell to those who do not maintain such suggested resale prices. It has utilized a system of key numbers or symbols stamped or marked upon the cases

containing the "Beech-Nut brand" products, thus enabling it, for any purpose whatsoever, to ascertain the identity of the distributors from whom such products were purchased; and that repeatedly, when instances of price-cutting have been reported to it by the selected wholesalers and retailers, or ascertained in other ways, its salesmen and representatives have been instructed by it to investigate, and that in pursuance of these instructions they have by means of these key numbers or symbols traced the price-cutters from whom the goods have been obtained, and have thus ascertained the identity of such price-cutters, and have also thus traced and ascertained the identity of distributors from whom price-cutters have purchased "Beech-Nut brand" products; and has thereafter refused to supply all such dealers with its products, whether such dealers were themselves cutting the suggested resale prices or were selling to dealers cutting the suggested resale prices.

The company has and does maintain card records containing the names of thousands of jobbing, wholesale, and retail distributors, including the selected distributors, and in furtherance of its refusal to sell goods either to distributors selling at less than the suggested resale prices, or to distributors selling to other distributors selling at less than the suggested resale prices, has listed upon those cards, bearing the names of such distributors, the words "Undesirable—Price-Cutters," "Do Not Sell," or "D.N.S.," the abbreviation for "Do Not Sell," or expressions of a like character, to indicate that the particular distributor was in the future not to be supplied with respondent's goods on account of failure to maintain the suggested resale prices, or on account of failure to discontinue selling to dealers failing to maintain such suggested resale prices. When the company has received declarations, assurances, statements, promises, or similar expressions, as the case may be, by distributors which satisfy it that such distributors will resell at the prices suggested by it, and discontinue selling to distributors failing to maintain the resale prices suggested by it, it has issued instructions to "clear the record," or directions of similar import, notation of which is made on the cards, and it has thereafter permitted shipments of its products to be made to such distributors; and such distributors to whom shipments are thus allowed to go forward constitute the company's list of so-called "selected" jobbers, wholesalers, and retailers, and no distributor is thus listed on such card record as one to whom goods are allowed to go forward who fails to maintain the resale prices suggested by it or sells to distributors failing to resell at such suggested price; and when a jobber, wholesaler, or retailer is reported as failing to maintain the suggested retail prices, and has been entered in the card records as one to whom shipments should not go forward, respondent notifies those jobbers, wholesalers, and retailers who supply the distributor, of this fact, and also notifies its specialty salesmen, and gives similar notices to such jobbers, wholesalers, and retailers and to its specialty salesmen when reinstatements are made in its list of "selected" jobbers, wholesalers, and retailers.

The Circuit Court of Appeals was of opinion that the only difference between the price-fixing policy condemned as unlawful in *Dr. Miles Medical Company* v. *Park & Sons Company,* 220 U. S. 373, 31 Sup. Ct. 376, 55 L. Ed. 502, and the price-fixing plan embodied in the Beech-Nut policy was that in the former case there was an agreement in writing, while in this case the success or failure of the plan depended upon a tacit understanding with purchasers and prospective purchasers. While it expressed its difficulty in seeing any difference between a written agreement and a tacit understanding in their effect upon the restraint of trade, it, nevertheless, regarded the case as governed by the decision of this court in *United States* v. *Colgate & Company,* 250 U. S. 300, 39 Sup. Ct. 465, 63 L. Ed. 992, 7 A.L.R. 443, and, accordingly, held that the Commission had exceeded its power in making the order appealed from.

The Colgate Case was prosecuted under the Sherman Anti-Trust Act (Comp. St. 8820 *et seq.*) and came to this Court under the Criminal Appeals Act (Comp. St. 1704). We therein held that this Court must accept the construction of the indictment as made in the District Court; and, that upon such construction, the only act charged amounted to the exercise of the right of the trader, or manufacturer, engaged in private business, to exercise his own discretion as to those with whom he would deal, and to announce the circumstances under which he would refuse to sell, and that thus interpreted no act was charged in the indictment which amounted to a violation of the Sherman Act prohibiting monopolies, contracts, combinations, and conspiracies in restraint of interstate commerce.

In the subsequent case of *United States* v. *Schrader's Son, Inc.,* 252 U. S. 85, 40 Sup. Ct. 251, 64 L. Ed. 471, this Court had occasion to deal with a case under the Criminal Appeals Act, wherein there was a charge that a manufacturer sold to manufacturers in several states under an agreement to observe certain resale prices fixed by the vendor—which we held to be a violation of the Sherman Anti-Trust Act. In referring to the Colgate Case we said:

> The court below misapprehended the meaning and effect of the opinion and judgment in that case. We had no intention to overrule or modify the doctrine of *Dr. Miles Medical Company* v. *Park & Sons Company,* where the effort was to destroy the dealers' independent discretion through restrictive agreements. Under the interpretation adopted by the trial court and necessarily accepted by us, the indictment failed to charge that Colgate & Company made agreements, either express or implied, which undertook to obligate vendees to observe specified resale prices; and it was treated as alleging only recognition of the manufacturer's undoubted right to specify resale prices and refuse to deal with anyone who failed to maintain the same.

In the still later case of *Frey & Son* v. *Cudahy Packing Company,*

256 U. S. 208, 41 Sup. Ct. 451, 65 L. Ed. 892, wherein this court again had occasion to consider the subject, it was said of the previous decisions in *United States* v. *Colgate* and *United States* v. *Schrader's Son, Inc., supra*:

> Apparently the former case was misapprehended. The latter opinion distinctly stated that the essential agreement, combination or conspiracy might be implied from a course of dealing or other circumstances.

By these decisions it is settled that in prosecutions under the Sherman Act a trader is not guilty of violating its terms who simply refuses to sell to others, and he may withhold his goods from those who will not sell them at the prices which he fixes for their resale. He may not, consistently with the act, go beyond the exercise of this right, and by contracts or combinations, express or implied, unduly hinder or obstruct the free and natural flow of commerce in the channels of interstate trade.

The Sherman Act is not involved here except in so far as it shows a declaration of public policy to be considered in determining what are unfair methods of competition, which the Federal Trade Commission is empowered to condemn and suppress. The case now before us was begun under the Federal Trade Commission Act which was intended to supplement previous anti-trust legislation. See *Report, No. 597, Senate Committee on Interstate Commerce,* June 13, 1914, 63d Congress, 2d Session. That act declares unlawful "unfair methods of competition" and gives the Commission authority after hearing to make orders to compel the discontinuance of such methods. What shall constitute unfair methods of competition denounced by the act, is left without specific definition. Congress deemed it better to leave the subject without precise definition, and to have each case determined upon its own facts, owing to the multifarious means by which it is sought to effectuate such schemes. The Commission, in the first instance, subject to the judicial review provided, has the determination of practices which come within the scope of the act. . . .

Of the Federal Trade Commission Act we said, in *Federal Trade Commission* v. *Gratz,* 253 U. S. 421, 427, 40 Sup. Ct. 572, 575 (64 L. Ed. 993):

> The words "unfair method of competition" are not defined by the statute and their exact meaning is in dispute. It is for the courts, not the Commission, ultimately to determine as matter of law what they include. They are clearly inapplicable to practices never heretofore regarded as opposed to good morals because characterized by deception, bad faith, fraud or oppression, or as against public policy because of their dangerous tendency unduly to hinder competition or create monopoly. The act was certainly not intended to fetter free and fair competition as commonly understood and practiced by honorable opponents in trade.

If the "Beech-Nut system of merchandising" is against public policy, because of "its dangerous tendency unduly to hinder competition or to create monopoly," it was within the power of the Commission to make an order forbidding its continuation. We have already seen to what extent the declaration of public policy, contained in the Sherman Act, permits a trader to go. The facts found show that the Beech-Nut system goes far beyond the simple refusal to sell goods to persons who will not sell at stated prices, which in the Colgate Case was held to be within the legal right of the producer.

The system here disclosed necessarily constitutes a scheme which restrains the natural flow of commerce and the freedom of competition in the channels of interstate trade which it has been the purpose of all the Anti-Trust Acts to maintain. In its practical operation it necessarily constrains the trader, if he would have the products of the Beech-Nut Company, to maintain the prices "suggested" by it. If he fails so to do, he is subject to be reported to the company either by special agents, numerous and active in that behalf, or by dealers whose aid is enlisted in maintaining the system and the prices fixed by it. Furthermore, he is enrolled upon a list known as "Undesirable—Price-Cutters," to whom goods are not to be sold, and who are only to be reinstated as one whose record is "clear" and to whom sales may be made upon his giving satisfactory assurance that he will not resell the goods of the company except at the prices suggested by it, and will refuse to sell to distributors who do not maintain such prices.

From this course of conduct a court may infer—indeed, cannot escape the conclusion—that competition among retail distributors is practically suppressed, for all who would deal in the company's products are constrained to sell at the suggested prices. Jobbers and wholesale dealers who would supply the trade may not get the goods of the company, if they sell to those who do not observe the prices indicated or who are on the company's list of undesirables until they are restored to favor by satisfactory assurances of future compliance with the company's schedules of resale prices. Nor is the inference overcome by the conclusion stated in the Commission's findings that the merchandising conduct of the company does not constitute a contract or contracts whereby resale prices are fixed, maintained, or enforced. The specific facts found show suppression of the freedom of competition by methods in which the company secures the cooperation of its distributors and customers, which are quite as effectual as agreements express or implied intended to accomplish the same purpose. By these methods the company, although selling its products at prices satisfactory to it, is enabled to prevent competition in their subsequent disposition by preventing all who do not sell at resale prices fixed by it from obtaining its goods.

Under the facts established we have no doubt of the authority and power of the Commission to order a discontinuance of practices in trading, such as are embodied in the system of the Beech-Nut Company.

We are, however, of opinion that the order of the Commission is too broad. The order should have required the company to cease and desist from carrying into effect its so-called Beech-Nut policy by cooperative methods in which the respondent and its distributors, customers and agents undertake to prevent others from obtaining the company's products at less than the prices designated by it—(1) by the practice of reporting the names of dealers who do not observe such resale prices; (2) by causing dealers to be enrolled upon lists of undesirable purchasers who are not to be supplied with the products of the company unless and until they have given satisfactory assurances of their purpose to maintain such designated prices in the future; (3) by employing salesmen or agents to assist in such plan by reporting dealers who do not observe such resale prices, and giving orders of purchase only to such jobbers and wholesalers as sell at the suggested prices and refusing to give such orders to dealers who sell at less than such prices, or who sell to others who sell at less than such prices; (4) by utilizing numbers and symbols marked upon cases containing their products with a view to ascertaining the names of dealers who sell the company's products at less than the suggested prices, or who sell to others who sell at less than such prices in order to prevent such dealers from obtaining the products of the company; or (5) by utilizing any other equivalent cooperative means of accomplishing the maintenance of prices fixed by the company.

The judgment of the Circuit Court of Appeals is reversed, and the case remanded to that court, with instructions to enter judgment in conformity with this opinion.

Reversed.

Mr. Justice Holmes dissenting:

There are obvious limits of propriety to the persistent expression of opinions that do not command the agreement of the court. But as this case presents a somewhat new field—the determination of what is unfair competition within the meaning of the Federal Trade Commission Act—I venture a few words to explain my dissent. I will not recur to fundamental questions. The ground on which the respondent is held guilty is that its conduct has a dangerous tendency, unduly to hinder competition or to create monopoly. It is enough to say that this I cannot understand. So far as the Sherman Act is concerned, I had supposed that its policy was aimed against attempts to create a monopoly in the doers of the condemned act or to hinder competition with them. Of course there can be nothing of that sort here. The respondent already has the monopoly of its own goods with the full assent of the law and no one can compete with it with regard to those goods, which are the only ones concerned. It seems obvious that the respondent is not creating a monopoly in them for any one else, although I see nothing to hinder its doing so by conveying them all to one single vendee. The worst that can be said, so far as I see, is that it hinders competition among those who purchase from it. But it seems to me

that the very foundation of the policy of the law to keep competition open is that the subject-matter of the competition would be open to all but for the hindrance complained of. I cannot see what that policy has to do with a subject-matter that comes from a single hand that is admitted to be free to shut as closely as it will. And to come back to the words of the statute I cannot see how it is unfair competition to say to those to whom the respondent sells and to the world, you can have my goods only on the terms that I propose, when the existence of any competition in dealing with them depends upon the respondent's will. I see no wrong in so doing, and if I did I should not think it a wrong within the possible scope of the word unfair. Many unfair devices have been exposed in suits under the Sherman Act, but to whom the respondent's conduct is unfair I do not understand.

Mr. Justice McKenna and Mr. Justice Brandeis concur in this opinion.

Mr. Justice McReynolds dissenting:

With regret, I dissent from the opinion and judgment of the court. This matter was submitted to the Commission upon an agreed statement of facts, the twelfth clause of which—the last but one—declares:

> 12. That the merchandising conduct of respondent heretofore defined and as herein involved does not constitute a contract or contracts whereby resale prices are fixed, maintained and enforced.

Of course, the Packing Company entered into this stipulation relying upon the quoted clause, and I am not at liberty either to disregard it or to minimize the plain import of its words. It is not a mere conclusion of the Commission but a definite and essential admission of record upon which the company rested and without which I must conclude a different case might have been presented.

There is no question of monopoly. Acting alone, respondent certainly had the clear right freely to select its customers—to refuse to deal when and as it saw fit—and to announce that future sales would be limited to those whose conduct met with its approval.[1]

If the solemn stipulation did not expressly negative the existence of contracts amongst the parties to maintain prices, I should think the detailed facts sufficient to support a finding that there were such agreements. But starting with that plain negation I can find no adequate ground for condemning the respondent.

The very order which the court below is now directed to enter conflicts with the stipulation between the parties by presupposing "methods of cooperation between respondent and the distributors of its products, especially the cooperative methods by which the respondent and the distributors of its products undertake to prevent others from obtaining

[1] *United States* v. *Colgate & Company*, 250 U. S. 300, 39 Sup. Ct. 465, 63 L. Ed. 992, 7 A. L. R. 443; *United States* v. *Schrader's Son, Inc.*, 252 U. S. 85, 40 Sup. Ct. 251, 64 L. Ed. 471; *Frey & Son* v. *Cudahy Packing Company* (decided April 18, 1921) 256 U. S. 208, 41 Sup. Ct. 451, 65 L. Ed. 892.

such products at less than the prices fixed by respondent [by] the cooperation of customers in reporting the names of dealers who do not observe such resale prices with the view to prevent their obtaining the products of the Beech-Nut Company thereafter." How can there be methods of cooperation, cooperative methods, an undertaking to prevent others, or the cooperation of customers with a view to prevent others, when the existence of the essential contracts is definitely excluded?

Having the undoubted right to sell to whom it will why should respondent be enjoined from writing down the names of dealers regarded as undesirable customers? Nor does there appear to be any wrong in maintaining special salesmen who turn over orders to selected wholesalers and who honestly investigate and report to their principal the treatment accorded its products by dealers. Finally, as respondent may freely select customers, how can injury result from marks on packages which enable it to trace their movements? The privilege to sell or not to sell at will surely involves the right by open and honest means to ascertain what selected customers do with goods voluntarily sold to them.

Under the circumstances disclosed, constraint upon the freedom of merchants can only result from withholding trade relations or threatening so to do. These, when acting alone, respondent may assume or decline at pleasure, there being neither monopoly nor attempt to monopolize. And the exercise of this right does not become an unfair method of competition merely because some dealers cannot obtain goods which they desire, and others may be deterred from selling at reduced prices. If a manufacturer should limit his customers to consumers he would thereby destroy competition among dealers, but neither they nor the public could complain.

Would you have upheld the Commission's order?

2. Federal Trade Commission *v.* Winsted Hosiery Company[1]

Mr. Justice Brandeis delivered the opinion of the court:

The Winsted Hosiery Company has for many years manufactured underwear which it sells to retailers throughout the United States. It brands or labels the cartons in which the underwear is sold, as "Natural Merino," "Gray Wool," "Natural Wool," "Natural Worsted," or "Australian Wool." None of this underwear is all wool. Much of it contains only a small percentage of wool; some as little as 10%. The Federal Trade Commission instituted a complaint under Section 5 of the Act of September 26, 1914,[2] and called upon the company to show cause why use of these brands and labels alleged to be false and deceptive should not be discontinued. After appropriate proceedings an order was issued which, as later modified, directed the company to "cease and

[1] Supreme Court of the United States. April 24, 1922. 258 U. S. 483.

[2] c. 311, 38 Stat. 717, 719.

desist from employing or using as labels or brands on underwear or other knit goods not composed wholly of wool, or on the wrappers, boxes or other containers in which they are delivered to customers, the words 'Merino,' 'Wool,' or 'Worsted,' alone or in combination with any other word or words, unless accompanied by a word or words designating the substance, fiber, or material other than wool of which the garments are composed in part (e. g., 'Merino, Wool, and Cotton'; 'Wool and Cotton'; 'Worsted, Wool, and Cotton'; 'Wool, Cotton, and Silk'), or by a word or words otherwise clearly indicating that such underwear or other goods is not made wholly of wool (e. g., part wool)."

A petition for review of this order was filed by the company in the United States Circuit Court of Appeals for the Second Circuit. The prayer that the order be set aside was granted; and a decree to that effect was entered.[1] That court said: "Conscientious manufacturers may prefer not to use a label which is capable of misleading, and it may be that it will be desirable to prevent the use of the particular labels, but it is in our opinion not within the province of the Federal Trade Commission to do so."[2] The case is here on writ of certiorari.[3]

The order of the commission rests upon findings of fact; and these upon evidence which fills 350 pages of the printed record. Section 5 of the act makes the commission's findings conclusive as to the facts, if supported by evidence.

The findings here involved are clear, specific and comprehensive: The word "Merino" as applied to wool "means primarily and popularly" a fine long-staple wool, which commands the highest price. The word "Australian Wool" means a distinct commodity, a fine grade of wool grown in Australia. The word "wool" when used as an adjective means made of wool. The word "worsted" means primarily and popularly a yarn or fabric made wholly of wool. A substantial part of the consuming public, and also some buyers for retailers and salespeople, understand the words "Merino," "Natural Merino," "Gray Merino," "Natural Wool," "Gray Wool," "Australian Wool," and "Natural Worsted," as applied to underwear, to mean that the underwear is all wool. By means of the labels and brands of the Winsted Company bearing such words, part of the public is misled into selling or into buying as all wool, underwear which in fact is in large part cotton. And these brands and labels tend to aid and encourage the representations of un-

[1] The original order of the commission was based on findings which rested upon an agreed statement of facts. The petition for review urged, among other things, that the agreed statement did not support the findings. Thereupon the commission moved in the Court of Appeals that the case be remanded to the commission for additional evidence as provided in the fourth paragraph of Section 5 of the act. Under leave so granted the evidence was taken; and modified findings of fact were made. The modified order was based on these findings. It is this modified order which was set aside by the Court of Appeals; and we have no occasion to consider the original order or the proceedings which led up to it.

[2] 272 Fed. 957, 961.

[3] 256 U. S. 688.

scrupulous retailers and their salesmen who knowingly sell to their customers as all wool, underwear which is largely composed of cotton. Knit underwear made wholly of wool has for many years been widely manufactured and sold in this country and constitutes a substantial part of all knit underwear dealt in. It is sold under various labels or brands, including "Wool," "All Wool," "Natural Wool," and "Pure Wool," and also under other labels which do not contain any words descriptive of the composition of the article. Knit underwear made of cotton and wool is also used in this country by some manufacturers who market it without any label or marking describing the material or fibers of which it is composed, and by some who market it under labels bearing the word "Cotton and Wool" or "Part Wool." The Winsted Company's product, labeled and branded as above stated, is being sold in competition with such all-wool underwear, and such cotton and wool underwear.

That these findings of fact are supported by evidence cannot be doubted. But it is contended that the method of competition complained of is not unfair within the meaning of the act, because labels such as the Winsted Company employs, and particularly those bearing the word "Merino," have long been established in the trade and are generally understood by it as indicating goods partly of cotton; that the trade is not deceived by them; that there was no unfair competition for which another manufacturer of underwear could maintain a suit against the Winsted Company; and that even if consumers are misled because they do not understand the trade signification of the label or because some retailers deliberately deceive them as to its meaning, the result is in no way legally connected with unfair competition.

This argument appears to have prevailed with the Court of Appeals; but it is unsound. The labels in question are literally false, and except those which bear the word "Merino," are palpably so. All are, as the commission found, calculated to deceive and do in fact deceive a substantial portion of the purchasing public. That deception is due primarily to the words of the labels, and not to deliberate deception by the retailers from whom the consumer purchases. While it is true that a secondary meaning of the word "Merino" is shown, it is not a meaning so thoroughly established that the description which the label carries has ceased to deceive the public; for even buyers for retailers, and salespeople, are found to have been misled. The facts show that it is to the interest of the public that a proceeding to stop the practice be brought. And they show also that the practice constitutes an unfair method of competition as against manufacturers of all-wool knit underwear and as against those manufacturers of mixed wool and cotton underwear who brand their product truthfully. For when misbranded goods attract customers by means of the fraud which they perpetrate, trade is diverted from the producer of truthfully marked goods. That these honest manufacturers might protect their trade by also resorting to deceptive labels is no defense to this proceeding brought against the Winsted Company in the public interest.

The fact that misrepresentation and misdescription have become so common in the knit underwear trade that most dealers no longer accept labels at their face value, does not prevent their use being an unfair method of competition. A method inherently unfair does not cease to be so because those competed against have become aware of the wrongful practice. Nor does it cease to be unfair because the falsity of the manufacturer's representation has become so well known to the trade that dealers, as distinguished from consumers, are no longer deceived. The honest manufacturer's business may suffer, not merely through a competitor's deceiving his direct customer, the retailer, but also through the competitor's putting into the hands of the retailer an unlawful instrument, which enables the retailer to increase his own sales of the dishonest goods, thereby lessening the market for the honest product. That a person is a wrongdoer who so furnishes another with the means of consummating a fraud has long been a part of the law of unfair competition[1] And trade-marks which deceive the public are denied protection although members of the trade are not misled thereby.[2] As a substantial part of the public was still misled by the use of the labels which the Winsted Company employed, the public had an interest in stopping the practice as wrongful; and since the business of its trade rivals who marked their goods truthfully was necessarily affected by that practice, the commission was justified in its conclusion that the practice constituted an unfair method of competition; and it was authorized to order that the practice be discontinued.

Reversed.

Mr. Justice McReynolds dissents.

3. William R. Warner & Company *v.* Eli Lilly & Company[3]

Mr. Justice Sutherland delivered the opinion of the court.

Respondent is a corporation engaged in the manufacture and sale of pharmaceutical and chemical products. In 1899 it began and has ever since continued to make and sell a liquid preparation of quinine, in combination with other substances, including yerbasanta and chocolate, under the name of Coco-Quinine.

Petitioner also is a pharmaceutical and chemical manufacturer. The Pfeiffer Chemical Company, Searle & Hereth Company, and petitioner are under the same ownership and control. The first-named company

[1] *Von Mumm* v. *Frash*, 56 Fed. 830; *Coca Cola Co.* v. *Gay-Ola Co.*, 200 Fed. 720, 722; *New England Awl & Needle Co.* v. *Marlborough Awl & Needle Co.*, 168 Mass. 154, 155.

[2] *Manhattan Medicine Co.* v. *Wood*, 108 U. S. 218; *Worden* v. *California Fig Syrup Co.*, 187 U. S. 516, 538.

[3] Supreme Court of the United States. Argued April 28 and 29, 1924. Decided June 9, 1924. 44 Sup. Ct. 615.

in 1906 began the manufacture of a liquid preparation which is substantially the same as respondent's preparation and which was put upon the market under the name of Quin-Coco. Two years later the Searle & Hereth Company engaged in the manufacture of the preparation, which ever since has been sold and distributed by petitioner.

This suit was brought in the Federal District Court for the Eastern District of Pennsylvania by respondent to enjoin petitioner from continuing to manufacture and sell the preparation if flavored or colored with chocolate, and also from using the name Quin-Coco, on the ground that it was an infringement of the name Coco-Quinine, to the use of which respondent had acquired an exclusive right. The District Court decided against respondent upon both grounds. 268 Fed. 156. On appeal the Court of Appeals ruled with the District Court upon the issue of infringement, but reversed the decree upon that of unfair competition. 275 Fed. 752.

The entire record is here and both questions are open for consideration.

First. We agree with the courts below that the charge of infringement was not sustained. The name "Coco-Quinine" is descriptive of the ingredients which enter into the preparation. The same is equally true of the name Quin-Coco." A name which is merely descriptive of the ingredients, qualities, or characteristics of an article of trade cannot be appropriated as a trade-mark and the exclusive use of it afforded legal protection. The use of a similar name by another to truthfully describe his own product does not constitute a legal or moral wrong, even if its effect be to cause the public to mistake the origin or ownership of the product.[1]

Second. The issue of unfair competition, on which the courts below differed, presents a question of more difficulty. The testimony is voluminous, more than 200 witnesses having been examined; but, since the question with which we are now dealing is primarily one of fact, we have found it necessary to examine and consider it. Nothing is to be gained by reviewing the evidence at length, and we shall do no more than summarize the facts upon which we have reached our conclusions.

The use of chocolate as an ingredient has a threefold effect: It imparts to the preparation a distinctive color and a distinctive flavor, and to some extent, operates as a medium to suspend the quinine and prevent its precipitation. It has no therapeutic value; but it supplies the mixture with a quality of palatability for which there is no equally satisfactory substitute. Respondent, by laboratory experiments, first developed the idea of the addition of chocolate to the preparation for the purpose of giving it a characteristic color and an agreeable flavor. There was at the time no liquid preparation of quinine on the market containing chocolate, though there is evidence that it was sometimes

[1] *Canal* v. *Clark*, 13 Wall. 311, 323, 327, 20 L. Ed. 581; *Standard Paint Co.* v. *Trinidad Asphalt Co.*, 220 U. S. 446, 453, 31 Sup. Ct. 456, 55 L. Ed. 536; *Howe Scale Co.* v. *Wyckoff, Seamans & Benedict*, 198 U. S. 118, 140, 25 Sup. Ct. 609, 49 L. Ed. 972.

so made up by druggists when called for. There is some evidence that petitioner endeavored by experiments to produce a preparation of the exact color and taste of that produced by respondent, and there is evidence in contradiction. We do not, however, regard it as important to determine upon which side lies the greater weight. Petitioner, in fact, did produce a preparation by the use of chocolate so exactly like that of the respondent that they were incapable of being distinguished by ordinary sight or taste. By various trade methods an extensive and valuable market for the sale of respondent's preparation already had been established when the preparation of petitioner was put on the market. It is apparent, from a consideration of the testimony, that the efforts of petitioner to create a market for Quin-Coco were directed not so much to showing the merits of that preparation as they were to demonstrating its practical identity with Coco-Quinine, and, since it was sold at a lower price, inducing the purchasing druggist, in his own interest, to substitute, as far as he could, the former for the latter. In other words, petitioner sought to avail itself of the favorable repute which had been established for respondent's preparation in order to sell its own. Petitioner's salesmen appeared more anxious to convince the druggists with whom they were dealing that Quin-Coco was a good substitute for Coco-Quinine, and was cheaper, than they were to independently demonstrate its merits. The evidence establishes by a fair preponderance that some of petitioner's salesmen suggested that, without danger of detection, prescriptions and orders for Coco-Quinine could be filled by substituting Quin-Coco. More often, however, the feasibility of such a course was brought to the mind of the druggist by pointing out the identity of the two preparations and the enhanced profit to be made by selling Quin-Coco because of its lower price. There is much conflict in the testimony; but on the whole it fairly appears that petitioner's agents induced the substitution, either in direct terms or by suggestion or insinuation. Sales to druggists are in original bottles bearing clearly distinguishing labels and there is no suggestion of deception in these transactions; but sales to the ultimate purchasers are of the product in its naked form out of the bottle, and the testimony discloses many instances of passing off by retail druggists of petitioner's preparation when respondent's preparation was called for. That no deception was practiced on the retail dealers, and that they knew exactly what they were getting, is of no consequence. The wrong was in designedly enabling the dealers to palm off the preparation as that of the respondent.[1] One who induces another to commit a fraud and furnishes the means of consummating it is equally guilty and liable for the injury.[2]

The charge of unfair competition being established, it follows that

[1] *Coca-Cola Co.* v. *Gay-Ola Co.*, 200 Fed. 720, 119 C. C. A. 164; *N. K. Fairbank Co.* v. *R. W. Bell Manufacturing Co.*, 77 Fed. 869, 875, 877-878, 23 C. C. A. 554; *Lever* v. *Goodwin*, L. R. 36 Ch. Div. 1, 3; *Enoch Morgan's Sons Co.* v. *Whittier-Coburn Co.* (C. C.) 118 Fed. 657, 661.

[2] *Hostetter Co.* v. *Brueggeman-Reinert Distilling Co.* (C.C.) 46 Fed. 188, 189.

equity will afford relief by injunction to prevent such unfair competition for the future. Several acts of unfair competition having been shown, we are warranted in concluding that petitioner is willing to continue that course of conduct, unless restrained.[1] It remains to consider the character and extent of this relief.

Respondent has no exclusive right to the use of its formula. Chocolate is used as an ingredient, not alone for the purpose of imparting a distinctive color, but for the purpose of also making the preparation peculiarly agreeable to the palate, to say nothing of its effect as a suspending medium. While it is not a medicinal element in the preparation, it serves a substantial and desirable use, which prevents it from being a mere matter of dress. It does not merely serve the incidental use of identifying the respondent's preparation[2] and it is doubtful whether it should be called a non-essential. The petitioner or any one else is at liberty under the law to manufacture and market an exactly similar preparation containing chocolate and to notify the public that it is being done.[3] But the imitator of another's goods must sell them as his own production. He cannot lawfully palm them off on the public as the goods of his competitor. The manufacturer or vendor is entitled to the reputation which his goods have acquired and the public to the means of distinguishing between them and other goods; and protection is accorded against unfair dealing whether there be a technical trademark or not. The wrong is in the sale of the goods of one manufacturer or vendor as those of another.[4] If petitioner had been content to manufacture the preparation and let it make its own way in the field of open and fair competition, there would be nothing more to be said. It was not thus content, however, but availed itself of unfair means, either expressly or tacitly, to impose its preparation on the ultimate purchaser as and for the product of respondent.

Nevertheless, the right to which respondent is entitled is that of being protected against unfair competition, not of having the aid of a decree to create or support, or assist in creating or supporting, a monopoly of the sale of a preparation which every one, including petitioner, is free to make and vend. The legal wrong does not consist in the mere use of chocolate as an ingredient, but in the unfair and fraudulent advantage which is taken of such use to pass off the product as that of respondent. The use disassociated from the fraud is entirely lawful, and it is against the fraud that the injunction lies. But respondent, being entitled to relief, is entitled to effective relief; and any doubt in respect of the extent thereof must be resolved in its favor as the

[1] *Hennessy* v. *Wine Growers' Assn.* (D. C.) 212 Fed. 308, 311.

[2] *Coca-Cola Co.* v. *Gay-Ola Co., supra,* page 724 [119 C. C. A. 164].

[3] *Saxlehner* v. *Wagner,* 216 U. S. 375, 380, 30 Sup. Ct. 298, 54 L. Ed. 525; *Chadwick* v. *Covell,* 151 Mass. 190, 23 N. E. 1068, 6 L. R. A. 839, 21 Am. St. Rep. 442.

[4] *Elgin National Watch Co.* v. *Illinois Watch Co.,* 179 U. S. 665, 674, 21 Sup. Ct 270, 45 L. Ed. 365.

innocent producer and against the petitioner, which has shown by its conduct that it is not to be trusted. Clearly, the relief should extend far enough to enjoin petitioner, and its various agents, from, directly or indirectly, representing or suggesting to its customers the feasibility or possibility of passing off Quin-Coco for Coco-Quinine. The Circuit Court of Appeals held that petitioner should be unconditionally enjoined from the use of chocolate. We think this goes too far; but, having regard to the past conduct of petitioner, the practices of some druggists to which it has led, and the right of respondent to an effective remedy, we think the decree fairly may require that the original packages sold to druggists shall not only bear labels clearly distinguishing petitioner's bottled product from the bottled product of respondent, but that these labels shall state affirmatively that the preparation is not to be sold or dispensed as Coco-Quinine or be used in filling prescriptions or orders calling for the latter. With these general suggestions, the details and form of the injunction can be more satisfactorily determined by the District Court. The decree of the Circuit Court of Appeals is reversed and the cause remanded to the District Court for further proceedings in conformity with this opinion.

Reversed.

1. In its effects upon manufacturers, distributors, and consumers, how does this decision differ from that of the Winsted Hosiery Company case (page 525)?

2. Is the functioning of the Federal Trade Commission a desirable method of preventing unfair business practices?

3. What other ways of accomplishing this end do you suggest?

XXXIII

PUBLIC SERVICE INDUSTRY

Clay, 124-127; Edie, 169-171, 745-755; Ely, 175-177, 197-200; Fairchild II, 4-5; Rufener, 305-327; Seager, 422-447; Seligman, 273-277, 623-626; Taussig, II, 419-440.

1. Lakeside Street Railway Company

INCREASED FARE APPROVED BY PUBLIC UTILITY COMMISSION

In June, 1924, an award was made by a board of arbitration increasing the wages of all the employees of the Lakeside Street Railway Company. The company estimated that the increase in wages would amount to $235,000 a year. As the award was made retroactive to January 1, 1924, the company was required to pay extra wages for the period from January 1 to June 28, 1924, amounting to $117,650. This amount was paid from funds accumulated for repair work on the railway during the summer months. It was necessary, therefore, to defer these repairs. Because of a local business depression and growing use of automobiles, the traffic on the system was decreasing. The average monthly number of revenue passengers for the first six months of 1924 was 3,989,037, compared with 4,105,852 for the year 1923. The receipts of the company for the first half of 1924 were approximately $159,000 less than for the corresponding period of 1923. To meet this situation, the company decided to increase fares. A study was made for the purpose of determining whether it would be better to change the existing 7-cent fare to a straight 8-cent basis or to adopt a 10-cent cash fare with three tickets for 25 cents.

The company, located in Lakeside, an industrial city of about 125,000 population, owned and operated approximately 200 miles of track in that city and in 15 smaller communities.[1]

[1] A street railway company operates under a franchise or grant, issued either by the legislature or, more often, by the city governing body.

A franchise gives to the railway company the right to use the city streets. This right may or may not be exclusive, and often provision is made requiring the

About 85% of the company's revenue was derived from the operations of the city division, where a central zone fare system was in effect. The existing fare, first effective in October, 1919, was 7 cents within each zone. Two classes of special rate tickets for interzone rides were sold, one at nine for $1, (11 1/9-cent rate) and the other at eleven for $1, (9 1/11-cent rate). The fare for school children was fixed by law at one-half the regular cash fare. There were six or seven other special rate tickets which applied to light traffic suburban lines; these were of minor importance as a source of revenue. Under this tariff the company's earnings had been sufficient to pay a dividend of 2% on the par value of its capital stock in 1920, 3% in 1921, and 5% in 1922 and in 1923.

In order to determine the relative income from an 8-cent and an 8 1/3-cent rate, estimates of revenue were prepared upon the basis of the number of passengers carried during the 12 months ending July 31, 1924.

These estimates, which allowed for the fact that the number of passengers probably would decrease somewhat because of the higher fares, are shown below:

Estimated total income, 8c fare	$3,319,616	8⅓c fare	$3,481,287
Actual income, 7c fare	3,061,329	7 c fare	3,061,329
Probable net increase	$ 258,287		$ 419,958

The company intended to raise the prices of the interzone tickets from 11 for $1 to 10 for $1, and from 9 for $1 to 8 for $1, no matter which cash fare it adopted.

In preparing these estimates, it was necessary to make arbitrary assumptions regarding the probable percentage loss of traffic which would result from the increased fares and the proportion of passengers who would use 8 1/3-cent tickets instead of paying a 10-cent cash fare. Data which had been compiled from the experience of other companies indicated that fare increases prac-

company to maintain the streets for a specified distance on each side of the tracks. The rate of fare to be charged may be specified, and the franchise may be terminable upon a definite date, or may be what is known as an indeterminate franchise. For example, one street railway company "originally operated its railway under a franchise requiring it to do similar paving and limiting it to a maximum fare of 5 cents per passenger. Availing itself of the permission granted by No. 571 of the Acts of Arkansas 1919, amended by No. 124 of 1921, the company had surrendered in that year its franchise for an indeterminate permit to operate its road. The permit did not fix a maximum fare or require the railway to pave parts of the streets occupied by its tracks, but subjected it to the regulatory powers of a utilities commission." 47 *Supreme Court Reporter*, at page 596.

tically never produced a proportional increase in revenue. In a near-by city a recent similar increase in fares resulted in a decrease in revenue passenger traffic of 18%. When the Lakeside Street Railway Company increased its fare from 5 cents to 6 cents and later from 6 cents to 7 cents, the immediate effect on traffic in each case was a decrease of approximately 10%.

The company expected that the loss of traffic would be about the same whether the fare was increased to 8 cents or to the 8 1/3-cent rate, and that a fair estimate of loss would be 5% of the regular 7-cent zone traffic and 2½% of the special interzone traffic, since the increases in fare in the first case were 14 2/7% and 19%, and in the second, only 10% and 12½%. In addition the interzone rides were longer than the intrazone; it was natural, therefore, to expect less loss of traffic in the former. In the case of the school children, most of whom rode from necessity, although the percentage increase in fare was much greater, the loss of traffic was estimated at only 5%.

It was assumed that if the 8 1/3-cent rate was adopted, 96% of the intrazone passengers would purchase the reduced rate tickets at three for 25 cents, and that 4% would pay the 10-cent cash fare. This assumption was based on the experience of a near-by street railway company which recently had changed its ticket rate from two for 15 cents to three for 25 cents. During the first four months of operation under the new rate, the proportion of passengers using tickets varied between 95.4% and 96.3%. Conditions in the Lakeside Street Railway Company were believed to be substantially the same.

The company realized that there would be a certain amount of opposition on the part of the public, newspapers, and civic and political organizations to any increase in street railway fares, and that the company would have to argue its case at public hearings before the State Public Utilities Commission. The company would have to accept the commission's decision on the new rates, unless it desired to carry the case to the courts. Litigation would probably be long drawn out, expensive, and of doubtful outcome. In all probability an increase to the 10-cent cash, three tickets for 25 cents, rate would be more unpopular than an increase to a straight 8-cent fare. The former rate would increase the fare for school children from 3½ to 5 cents, 43%, since their fare was fixed by law at one-half the regular cash fare. This was

likely to be opposed by civic organizations interested in the schools.

The company decided to adopt the 10-cent cash, three tickets for 25 cents, rate, because it was expected to yield more revenue than the 8-cent fare and to improve the service by facilitating the collection of fares. Hearings were held before the State Public Utilities Commission, and the new rates were opposed by representatives of various civic organizations.

In September, 1924, the commission approved the new tariff, stating in part: "In view of the conditions that confront the company, we are of the opinion that the proposed rate of 10 cents, cash fare, with three tickets for 25 cents, is a reasonable rate of fare. It is hoped that the situation will so improve in Lakeside that the rates of fare may be modified. But in view of the uncertain conditions that are likely to obtain in the next six months, we think it unwise in the interests of the people of Lakeside to reduce a fare which they may obtain for 8 1/3 cents by purchase of three tickets to an 8-cent cash fare, which if conditions continue as they now exist will fall short of the company's necessities. Moreover, we think a provision for tickets is desirable, as it will tend to eliminate the time taken in making change and will result in speeding up the service and tend thus to decrease operating expenses. It is to be observed that in the event that conditions change so as to warrant the application of an 8-cent fare in place of an 8 1/3-cent fare, application to the commission can at any time be made."

1. Would you have agreed with the commission's decision?
2. Is regulation of the rates and services of this type of company justifiable?

2. Moret Utilities Company

SALE OF STOCK TO CUSTOMERS

Early in 1921, in connection with a campaign to improve public relations, the financial executives of the Moret Utilities Company proposed that the company sell preferred stock directly to the residents of the communities it served. The company supplied, through subsidiary companies which held perpetual monopolistic franchises, gas, electric light and power, and street railway serv-

ice in over 200 cities and towns, with a total population of approximately 2,500,000, in a rapidly growing section of a middle-western state. The executives of the Moret Utilities Company, appointed by the president of the company under authority from the board of directors, constituted the active management of the subsidiary companies. This fact was known to the customers of the subsidiary companies, and they regarded the Moret Utilities Company as the supplier of their service. The company controlled its subsidiary companies by majority stock ownership except in a few instances in which companies were operated under long-term leases. The money which would be obtained from the sales of new securities of the Moret Utilities Company would be used to buy securities of subsidiaries. Ultimately, the funds would be used by the subsidiaries for financing new construction.

During the 10 years prior to 1921, the annual gross receipts from the operations of the company and its subsidiaries had increased from $30,000,000 to $75,000,000, and this rate of growth was expected to continue. The gas and electric properties were prosperous and financially sound, but the street railways were in a critical condition because of rising costs and inadequate fares. The company's requests to the state Public Utilities Commission for permission to increase fares and rates had been the subject of attack by political factions for four years, and the attitude of the public was antagonistic. Two newspapers in the company's territory had been active in criticism and abuse of the management, and the conversation of street railway patrons indicated dissatisfaction with the service. A concerted effort was to be made by the company to improve relations with its customers and with the public.

The Moret Utilities Company had outstanding $30,000,000 of common stock, $10,000,000 of preferred stock, and $80,000,000 of bonds and notes. The company's assets consisted of stocks and bonds of subsidiary companies. Common stock dividends had been paid at the rate of $6 a share from 1910 to 1919, and at the rate of $4 a share in 1919 and 1920. In 1919, 8% preferred stock had been sold through investment bankers whose commissions amounted to from $4 to $6 a share of $100 par value. In 1921 there were 1,956 holders of common stock and 285 holders of preferred stock. Bond issues, both of the parent company and of the subsidiaries, always had been marketed through syndi-

cates of bankers; no difficulty had been experienced in selling them. When new common stock of subsidiaries was issued, the Moret Utilities Company always purchased enough stock to retain control of the subsidiaries.

Under the proposed plan, 20,000 shares of 8% cumulative preferred stock would be sold at the par value of $100 a share by employees to residents of the territory; the company's 8% preferred stock was selling on the Chicago Stock Exchange at about par. At the time of subscription, and each month thereafter for 9 months, purchasers would pay $10 a share. The stock was to carry no restriction upon voting power. Dividends were to be payable quarterly. Stock of the Moret Utilities Company, rather than stock of the subsidiary companies, was to be sold at this time, because an owner of stock in the holding company would be likely to bear goodwill toward all the different subsidiaries, such as those supplying gas, electric light and power, and street railway services, in the same community. It was expected that from 10% to 20% of all future capital requirements could be secured by the sale of preferred stock to customers.

Employees, who would sell the stock in connection with their regular duties or in their free time, were to be paid $2 for the first share sold to a customer, $1.75 for the second, $1.50 for the third, $1.25 for the fourth, and $1 for each additional share to the same customer. A general sales manager was to be in charge of the entire territory. An active publicity campaign was to be maintained; newspaper advertising was to be supplemented by cards and folders sent out with monthly bills, and detailed information was to be distributed to the employees before the sale of stock was begun.

This method of selling stock had many advantages. Employees, in selling stock, would become active supporters of the company. The commissions were expected to arouse the employees' interest, and it was anticipated that the stock would sell readily. Intimate contacts would be made between customers and the company. Many employees might purchase stock. Public confidence in the management, moreover, would be strengthened. Stock issued through investment bankers was sold in various parts of the country, whereas sales made by the employees would be entirely in the territory served by the company and its subsidiaries. Investment firms, furthermore, had no

special knowledge of the identities or locations of the Moret Utilities Company's customers. The company's own records provided it fully with those facts.

More customers than before would be financially interested in the success of the company; it was believed that if customers owned stock they would be less likely to criticize and abuse the management. If stock in the company were owned generally by residents of the community, politicians who harassed the company would be opposing their constituents; consequently, rate and fare issues would lose the important place they had held in local politics. The company's bankers and financial advisors approved the plan because they believed it would strengthen the security of the company's bonds. As the company would continue to sell its bonds through investment bankers, it was assured of their support at all times.

The total estimated cost of selling the 20,000 shares was $2.50 a share.

1. Should this company have planned to have its stock owned as largely as possible by its own customers rather than by widely scattered investors?

2. Would a similar financial plan be suitable for private industrial corporations?

3. New Jersey Board of Public Utility Commissioners[1]

FAIR RETURN

After fixing the fair value of the New York Telephone Company's property at $76,370,000, the board took up the question of the "Rate of Return." The company submitted testimony by a representative of Stone and Webster, bankers and managers, tending to show that during the first half of 1924, "the yield on good first mortgage public utility bonds . . . . was at market prices from 6% to 6½%, which yield should be increased somewhat to take care of banker's commission; that the lowest yield considered by him was 5.95% and the highest 6.6%. In his view, the yield to the investor on utility preferred stock would range from 7% to 8½%, where the actual dividend rates ranged from 6% to 8% on the par value of the stock. On common stock,

[1] Public Utility Reports, 1925 C, p. 767.

the yields would run from 7.5% to 9% or a little over, and 8% would constitute a fair average rate."

Another witness for the company filed an exhibit which "set forth the yields of public utility bonds for the years 1903 to the first quarter of 1924; the yield in 1903 was 4.63% and the yield in the first quarter of 1924, 6.31%. Those yields are taken from Moody's *Public Utility Investments,* which says: 'The following averages of the prices of capital are based upon a large number of new issues made during the respective periods, the data used being the net yields to investors.'

"If the average brokerage fee of 3% is paid by the company on 20-year bonds, the cost of money to the company will be 0.1% added to the above yields. Thus, for the public utility bonds during the first quarter of 1924, the yield to the investor averaged 6.31%, to which would be added 0.1%, making 6.41% average cost of money to the average utility company."

Commenting on the rise in the price of capital, Moody's says, in 1923, "The rise in the price of public utility capital was due mostly to the unfortunate situation of electric railways, consequent on the failure of street car fares to keep pace with the advance in operating costs."

The same witness also submitted a list of some 22 light and power companies' securities which showed the following market yields on the average:

Bonds	6.26%
Preferred Stock	7.52
Common Stock	7.21

The board said:

> If these yields be applied to the bonds and stocks of the New York Telephone Company in the percentage amount outstanding, as of December 31, 1923, the composite yield would be 6.92% at the market, adding to which the 0.1% for financing would bring the yield to 7.02%.

The expert of the board submitted an exhibit entitled "Average Monthly Prices of Five Telephone and Telegraph Bonds, January, 1914, to August, 1924." The average monthly yield for the 10 years ending December 31, 1924, on these five bonds, was 5.53% on the market price. During the first eight months of the year 1924, the average yield was 5.27%, and the yield in June and July, respectively, was 5.18% and 5.14%.

He submitted another exhibit, "Composite Yields of Major Issues of the New York Telephone Company Bonds at Average Market Prices, 1914-1924." This showed that the average yield at the market price to the investor during this 10-year period was 5.44%. The yield in June, 1924, was 5.10% on the average market price for that month. "This average yield is sufficient to induce investment in the company's bonds."

The same witness showed "for the year 1923 and six months of 1924 the bond yields, the yields at market prices of the company's 6½% preferred stock, the yields of the 8% common stock of the New England Telephone and Telegraph Company, at market prices, and a composite yield at market prices of all securities of the New York Telephone Company, the latter being based on the assumption that the yield on the New York Telephone Company's 8% common stock (not on the market) would be as much as that on the common stock of the New England Telephone and Telegraph Company."

This exhibit showed bond yields to investors at average market prices for the year 1923, 5.34%, and for the first six months of 1924, 5.30%. The yield on the preferred stock for 1923 averaged 5.92% and for 1924, 5.71%. "The yield on the 8% common stock of the New England Telephone and Telegraph Company, for the year 1923, was 6.93%, and in 1924, when deficiency in earnings became public, the yield climbed to such an extent that the average yield during the first six months of 1924 was 7.34%.

"On the basis of the actual figures relating to yield on the bonds and preferred stock of the New York Telephone Company, and on the common stock of the New England Telephone and Telegraph Company, for the last 18 months, the following table [Exhibit 1] has been prepared to show a composite yield which would attract capital into the business, based on prices which the public has been paying for these securities.

"The [following] table indicates . . . . that the composite yield of 6.6% would attract the public to the securities of the company because they were buying the securities at these yields.

"A return of 7½% would give a margin of nearly 14% above the cost to the company at the market prices of securities named, and a return of 8% would give a cover or margin of upward of 20%. Based upon all the facts . . . . the board is of the opin-

EXHIBIT 1

Bonds 38.2% of capital at 5.45% (10-year average yield)	2.08%
6½% preferred stock, 5.3% of capital at 5.94%	0.31
Common stock, 56.5% of capital at 7.10% (18 months' average, New England Telephone and Telegraph Company)	4.01
Composite yield on all securities	6.40%
Adding cost of financing bonds and stocks	0.20
Total	6.60%

ion that a return on capital of from $5,750,000, to $6,000,000 will afford a fair return to the company. If based on a strict reproduction cost of the financing of the company, only, as of today . . . . this return probably would be entirely too high, but the company must carry on through all conditions of the money market and the board is of the opinion that the probable future average, rather than the present price of money, may reasonably be used in this case."

It is impossible to compare the figures of fair return as found by the board with the actual requirements of the company for interest and dividends for the year 1924 because the capitalization and earnings as reported are for the company as a whole and not for the New Jersey division. Some interest attaches to them, however.

The book value of all the assets of the whole company, including intangibles and working capital, on December 31, 1924, was $587,914,821

The same figure for the same assets in New Jersey appears to be approximately 76,450,000

(Neither actual nor theoretical depreciation has been deducted from either figure.)

On this basis of comparison the New Jersey property was 13% of the whole.

For the year ending December 31, 1924, the net earnings of the whole company after taxes, depreciation, and all charges except interest and dividends were $24,605,134

13% of this figure is 3,198,667

During this period actual charges for interest and dividends paid were 27,643,303

Showing a deficit of 3,038,169

13% of these charges is 3,593,629

On this basis of estimate the actual requirements for interest and dividends on the New Jersey division as paid were about $3,600,000, compared with the commission's estimate of income of $4,449,000 and a figure for fair return of $5,750,000.

Another way to form a judgment as to the soundness of this decision is by comparing gross income of the New Jersey division as estimated by the commission at $22,658,000 with the gross income of the whole company of $143,288,219. The ratio is 15.8%.

On this basis (16%) the actual charges for interest and dividends for the New Jersey division would have been $4,429,285, or about the net revenue from present rates as found by the board. Deducting this from the fair return found by the board leaves a margin or cover of $1,320,715.

If the 16% ratio be applied to the actual outstanding capital and charges of the whole company, the proportion of the New Jersey division will be:

		Charges
Bonds	$21,800,000	$1,547,907
Preferred stock	4,000,000	260,000
Common stock	32,750,000	2,620,000
	$58,550,000	$4,367,907

If the interest charge and the preferred dividend, as estimated above, be regarded as fixed charges and deducted from the fair return of $5,750,000, there remains a balance of $3,942,093, which is 12.6% on the estimated amount of common stock.

In the balance sheet for the whole company, the reserve for depreciation, and the surplus amounted to about $150,000,000 or 25% of the total assets. The difference between the capital outstanding as above against the New Jersey division and the book value of $76,450,000 is $17,900,000, while 25% of the book value is about $19,000,000, showing that the New Jersey division's share of depreciation and surplus about equaled the difference between the capital and the book value.

1. Should the commission have allowed the operating company to charge rates high enough to assure a "fair" return on each class of security?

2. In any event, should the company's charges to customers have been subject to future variation?

4. City of Milwaukee[1]

Relation of fair return to cost of service

In 1926 the Supreme Court of Wisconsin handed down a decision which, in effect, stated that municipal water-supply systems were subject to the jurisdiction of the Wisconsin Railroad Commission. Accordingly the city of Milwaukee, which operated its own water supply, filed with the commission its schedule of water rates, and asked that they be formally approved. Seeking to ascertain whether the rates charged for water in Milwaukee were reasonable, the commission made a thorough investigation of the operation of the water department and held several public hearings.

The schedule under review had been in effect for several years prior to 1926 and contained the following rates for general service, applicable to both domestic and industrial customers:

Class 1

Meter Rates

Water rates are made up of two items: First, a "Service Charge" against every meter to meet the cost of accounting, meter reading, delivery of bills, collection of accounts, and so forth; second, a charge for water furnished to cover the cost of pumping and purifying the water, distribution, maintenance of plant, and so forth.

a) Service Charge

A uniform service charge of $2 per annum shall be assessed against every meter, regardless of the size of meter, service pipe, or the amount of water consumed. This charge is to be billed quarterly in amounts of 50 cents per meter and shall be payable in the same manner and at the same time when water rates are due.

b) Charge for Metered Water

The charges for metered water for premises inside the city limits shall be uniform, to wit: 7 cents per 100 cu. ft., equal to 9 1/3 cents per 1,000 gallons.

For water furnished for any purpose beyond the city limits, there shall be a uniform charge of 10 cents per 100 cu. ft., equal to 13 1/3 cents per 1,000 gallons.

No deductions are to be made on account of any leakage or wastage.

Special rates for private fire protection (automatic sprinkler systems), for construction purposes, for public fire hydrant use,

[1] *In the matter of the proposed filing of water rates of the city of Milwaukee as a water utility,* Wisconsin Railroad Commission, Case U-3457, December 9, 1926.

and for miscellaneous purposes were also included in the schedule.

In support of the schedule, the city introduced considerable testimony and many exhibits. One of the exhibits purported to show that the actual cost of water furnished in annual quantities of from 10,000 gallons to 500,000,000 gallons varied from 61.8 cents per 1,000 gallons for the smaller quantity to 9.34 cents per 1,000 gallons for the larger quantity. Objections to the rate were filed by a number of commercial and industrial water users who rested their opposition largely upon the ground that the rate was a uniform meter rate which did not conform to the cost curve. It was urged by these customers that the commission should establish a type of schedule which closely followed the actual cost of service.

In passing upon this question the commission pointed out that the public utility law did not provide either as to individuals or as to class that rates should exactly reflect the cost of service. So far as the language of the statute went, there was only the provision that rates should not be unjust or unreasonable or unjustly discriminatory. There was no attempt in the statute to denominate as unjustly discriminatory a rate which did not conform strictly to the cost of service. Proceeding, the commission said:

> The statute seems to contemplate that the commission, in fixing rates for various classes of service, may properly consider all factors having a bearing upon such rates, and not merely the question of the cost of serving a particular class.
>
> The testimony introduced on behalf of the city of Milwaukee is to the general effect that the determination of the so-called "cost curve" is only a step in arriving at a proper schedule of rates; that such rates need not conform closely to the cost curve; and that the determination of the schedule to be charged, assuming that the total return is not to be excessive, is largely a function of management. To define the limits within which the fixing of rates is a function of management, and beyond which it becomes a problem of regulation, would probably be extremely difficult; but we think that to some extent at least the city's claim that the determination of the type of schedule properly lies within the field of management can be sustained.
>
> So much emphasis has been laid upon the determination of the cost of service for different classes of users that in some quarters that cost has come to be looked upon as the sole or most important element to be considered in fixing a schedule. This probably is largely an outgrowth of the hit-or-miss method of fixing rates in the early days of the utility business. When it became apparent that the early schedules were not adapted to the development of the business, a great

deal of emphasis was laid upon this matter of determining costs. It must be borne in mind, however, that the methods of determining costs rely for the accuracy of their results largely on the soundness of the judgment of the individual making the determination. They involve apportionments of property and of operating expenses, all of which are in some degree arbitrary, and some of which can hardly be correctly referred to by any other term.

Generally speaking, in the business of supplying electric service, the cost of serving various classes is quite fully reflected in the rate schedules, as nearly as that cost can be determined. In the gas business, at least within our experience, this is not true to the same extent, and the same condition prevails in the water-supply business. In the electrical business, also, a good deal has been done toward so adjusting the schedules that each individual within the class has a rate adapted to the cost of serving him. In this regard practically nothing has been done in the gas and water-supply business, and nothing in the telephone business except in these instances where measured service prevails. . . .

We think, therefore, that regardless of the attitude of the city, the commission would not be bound to fix rates in accordance with the cost curve, and we think, further, that some consideration may properly be given to the managerial functions of the city in the determination of the type of schedule. Even if we were to attempt to fix the rates on the basis of the relative cost of serving large and small consumers, it would be a practical impossibility to frame a rate schedule which would accurately represent the difference in the cost of serving individuals within the same class.

The commission then pointed out that the rate under review was not, as claimed by the protesting customers, a uniform meter rate, but was one that would produce a much higher charge per unit of consumption for a small consumer than for a large customer, and to that extent it approximated the form of the cost curve.

After careful consideration of all the facts, the commission reached the conclusion that the schedule which the city of Milwaukee had filed was not unjust, unreasonable, or unjustly discriminatory.

1. How would you justify charging a small consumer higher rates than a large consumer?

2. Do you agree that it is "a practical impossibility" to frame a rate schedule which would accurately represent differences in cost of service?

XXXIV

RAILROAD PROBLEMS—RATES AND SERVICE

Black, 756-822, 887-888; Bye, 74; Clay, 127-133; Edie, 169-171; Ely, 83-86, 552-578; Fairchild, I, 164-184; Gide, 240-255, 267-269; Marshall, 484-487; Rufener, 328-355; Seager, 448-467; Seligman, 572-597; Taussig, II, 389-406.

1. President Hadley's Oyster Case[1]

Discrimination between local points of shipment

On the coast of Delaware, a few years ago, there was a place which we shall call *X*, well suited for oyster growing, but which sent very few oysters to market, because the railroad rates were so high as to leave no margin of profit. The local oyster growers represented to the railroad that if the rates were brought down to $1 a hundred pounds, the business would become profitable and the railroad could be sure of regular shipments at that price. The railroad men looked into the matter. They found that the price of oysters in the Philadelphia market was such that the local oystermen could pay $1 a hundred pounds to the railroad and still have a fair profit left. If the road tried to charge more, it would so cut down the profit as to leave men no inducement to enter the business. That is, those oysters would bear a rate of $1 a hundred, and no more. Further, the railroad men found that if they could get every day a carload, or nearly a carload, at this rate, it would more than cover the expense of hauling an extra car by quick train back and forth every day, with the incidental expenses of interest and repairs. So they put the car on, and were disappointed to find that the local oyster growers could only furnish oysters enough to fill the car about half full. The expense to the road of running it half full was almost as great as of running it full; the income was reduced one-half. They could not make up by raising the rates, for these were as high as the

[1] A. T. Hadley, *Railroad Transportation*, G. P. Putnam's Sons, 1885, pp. 116, 117. Reprinted by permission.

traffic would bear. They could not increase their business much by lowering rates. The difficulty was not with the price charged, but with the capacity of the local business. It seemed as if this special service must be abandoned.

One possibility suggested itself. At some distance beyond *X*, the terminus of this railroad, was another oyster-growing place, *Y*, which sent its oysters to market by another route. The supply at *Y* was very much greater than at *X*. The people at *Y* were paying $1 a hundred to send their oysters to market. It would hardly cost 25 cents to send them from *Y* to *X*. If, then, the railroad from *X* to Philadelphia charged but 75 cents a hundred on oysters which came from *Y*, it could easily fill its car full. This was what they did. They then had half a carload of oysters grown at *X*, on which they charged $1, and half a carload from *Y* on which they charged 75 cents for exactly the same service.

Of course there was a grand outcry at *X*. Their trade was discriminated against in the worst possible way—so they said—and they complained to the railroad. But the railroad men fell back on the logic of facts. The points were as follows: (1) A whole carload at 75 cents would not pay expenses of handling and moving. (2) At higher rates than 75 cents they could not get a whole carload, but only half a carload; and half a carload at a $1 rate (the highest charge the article would bear) would not pay expenses. Therefore, (3) On *any* uniform rate for everybody, the road must lose money, and, (4) They would either be compelled to take the oyster car away altogether, or else get what they could at $1, and fill up at 75 cents.

1. What rate should the oystermen at *X* have been willing to pay?

2. What considerations fixed the upper and lower limits of the rates the railroad could charge?

2. Standard Oil Company

Discrimination between shippers

In 1885 the Standard Oil Company owned or controlled most of the pipe lines in the vicinity of Macksburg, Ohio. Macksburg was an oil-producing field, and these pipe lines were used

to transport oil to the town, from which it was shipped over the Cleveland and Marietta Railroad to Marietta, Ohio, and there refined. The Standard Oil Company thus had a large amount of freight business which the railroad was desirous of securing.

The railroad was in the hands of a receiver, Phineas Pease, and the conditions proposed by the Standard Oil Company for transporting its oil were such that Mr. Pease, although he accepted them, wrote to his lawyer, E. S. Rappello, to find out whether his acceptance rendered the company legally liable. The court[1] quoted his letter which contains the facts of the case.

February 25, 1885

E. S. Rappello, Esq.
General Counsel for Receiver
32 Nassau Street, New York

Dear Sir:

This will introduce Mr. J. E. Terry, assistant freight agent of this road, whom I send to New York to counsel with you in regard to verbal arrangements made with the Standard Oil Company for transporting the oil product along the line of our road to Marietta. Upon my taking possession of this road, the question came up as to whether I would agree to carry the Standard Company's oil to Marietta for 10 cents per barrel in lieu of their laying a pipe line and piping their oil. I, of course, have assented to this, as the matter had been fully talked over with the W. &. L. E. Railroad Company before my taking possession of the road, and I want all the revenue to be had in this trade.

Mr. O'Day, manager of the Standard Oil Company, met the general freight agent of the W. & L. E. Railroad Company and our Mr. Terry at Toledo, February 12, and made arrangements (verbal) to carry their oil at 10 cents per barrel, but Mr. O'Day compelled Mr. Terry to make a 35-cent rate on all other oil going to Marietta, and that we should make the rebate of 25 cents per barrel on all oil shipped by other parties, and that the rebate should be paid over to them (the Standard Oil Company) thus giving us 10 cents per barrel for all oil shipped to Marietta, and the rebate of 25 cents per barrel going to the Standard Oil Company, making that company say $25 per day clear money on Mr. George Rice's oil alone.[2]

In order to save the oil trade along our line, and especially to save the Standard Oil trade, which would amount to seven times as much as Mr. Rice's, Mr. Terry verbally agreed to the arrangement which, upon his report to me, I reluctantly acquiesced in, fearing that I could

[1] *Handy* v. *Cleveland and Marietta Railroad Company*, 1887, Circuit Court for the Southern District of Ohio, 31 *Federal Reporter* 689.

[2] Mr. Pease uses the word "rebate" here to describe what ordinarily is called a "drawback."

not afford to lose the shipment of 700 barrels of oil per day from the Standard Oil Company. But when Mr. Terry issued instructions that on and after February 23, the rate of oil would be 35 cents per barrel to Marietta, Mr. George Rice, who has a refinery in Marietta, very naturally called on me yesterday and notified me that he would not submit to the advance because the business would not justify it and that the move was made by the Standard to crush him out (too true). Mr. Rice said: "I am willing to continue the 17½-cent rate which I have been paying from December to this date."

Now the question naturally presents itself to my mind if Mr. George Rice should see fit to prosecute the case on the ground of unjust discrimination, would the receiver be held as the manager of this property for violation of the law? While I am determined to use all honorable means to secure traffic for the company, I am not willing to do an illegal act (if this can be called illegal) and lay this company liable for damages. Mr. Terry is able to explain all minor questions relative to this matter.

Hoping for your careful consideration of this matter and an early reply, I remain, sir,

Truly yours,

P. Pease

Receiver and General Manager

1. What attitude should have been taken on this question by the railroad company? by the court?

2. Why did the railroad managers in the old days pay rebates? Why did the oil company insist on rebates on their competitors' shipments? How did it happen that they could get them?

3. Norfolk Hide & Metal Company *v.* Atchison, Topeka & Santa Fe Railway Company, *et al.*[1]

Report of the Commission[2]

Division 1, Commissioners Lewis, McManamy, and Woodlock by Division 1:

Complainant filed exceptions to the report proposed by the examiner. Our conclusion differs from that recommended by him.

Complainant purchases and sells green and green salted hides, tallow, and related articles at Norfolk, Nebraska, under the firm name of the

[1] No. 16480; 113 I.C.C. 280. Submitted January 26, 1926. Decided June 28, 1926.

[2] [The Interstate Commerce Act of 1887 was enacted by Congress to prevent interstate railroad carriers from charging unreasonable rates and from unjustly discriminating between persons and localities. The weakness of the original law in many respects allowed the railroads to defeat its purpose, and as a result many amendments were made, to the end that Congress, through the Interstate Com-

Norfolk Hide & Metal Company. By complaint filed November 17, 1924, he alleges that the rates charged on green or green salted hides and tallow, in straight carloads, and on hides, pelts, skins, grease, and tallow, in mixed carloads, shipped since July 1, 1922, from Norfolk to Chicago, Illinois, and points taking same rates, have been, are, and for the future will be unjust and unreasonable and, as compared with actually or relatively lower rates contemporaneously accorded other cities in Kansas, Nebraska, Iowa, Minnesota, North Dakota, and South Dakota, unduly prejudicial to complainant and unduly preferential of those cities and competitors there located. We are asked to prescribe reasonable and nonprejudicial rates[1] for the future and to award reparation.

Swift & Company intervened in opposition to complainant's allegation of undue preference of Kansas City, Kansas, South Omaha, Nebraska, Sioux City, Iowa, and South St. Paul, Minnesota, at which points it operates packing houses, and from which it ships green salted hides to Chicago. Rates will be stated in cents per 100 pounds.

Complainant purchases hides and other commodities mentioned in the complaint in small quantities at points in Nebraska, South Dakota, Wyoming, Iowa, Montana, and as far west as Denver, Colorado, concentrates them at Norfolk, and reships them in carloads to Chicago rate points. His competitors are located at Omaha, Grand Island, Lincoln, and Fremont, Nebraska, Yankton, South Dakota, and Sioux City. During the period from November 13, 1922, to October 11, 1924, a total of 12 shipments was made by the complainant. Due to the lower rates available to his competitors he has difficulty in meeting competition in the purchase of hides.

The changes which have taken place since July 1, 1922, in the rates from Norfolk to Chicago on the commodities herein considered are shown in Exhibit 1.

Generally speaking, the points of origin here under consideration may be divided into three groups, namely, (1) Missouri River points, (2) Nebraska differential territory, and (3) territory west of Nebraska differential territory. Joint rates apply from the Missouri River cities and points taking the same rates to Chicago. From Nebraska differential territory, which includes such points as Lincoln, Beatrice, and

merce Commission established by the Act, might succeed in preventing injustice arising from unreasonable or discriminatory rates against persons or localities. At first, the only provisions of the law directly benefiting the carriers were those requiring that the rates should be reasonable in that they furnished an adequate compensation for the particular service rendered, and that rebates be abolished. By the Transportation Act of 1920, however, the commission was ordered to fix rates and to take other important steps to maintain adequate railway service for the people of the United States.]

[1] ["The determination whether a rate is unreasonable or discriminatory is a question on which the finding of the commission is conclusive if supported by substantial evidence, unless there was some irregularity in the proceeding or some error in the application of the rules of law." *Western Paper Makers' Chemical Co., et al.* v. *United States, et al.*, 46 S. Ct. 501.]

EXHIBIT 1

RATES ON GREEN SALTED HIDES AND TALLOW FROM NORFOLK, NEBRASKA, TO CHICAGO, JULY, 1922, TO 1926

Commodity	Dates	Rate (Cents)
Green salted hides	July 1, 1922, to March 15, 1923	60
Green salted hides	March 15, 1923, to October 1, 1924	62
Green salted hides	October 1, 1924, to present	53
Tallow	July 1, 1922, to present	60
Mixed carloads	July 1, 1922, to March 15, 1923	60
Mixed carloads	March 15, 1923, to present	62

Fremont, the rates to Chicago are made by adding certain arbitraries, usually less than the local rates, to the rates from Omaha, a Missouri River city. From the territory west of the Nebraska differential territory, the rates to Chicago are made on the full combination based on the Missouri River cities. Norfolk, served by the lines of three railroads, is within the territory west of the Nebraska differential territory. Over the line of the Chicago & North Western it is 122 miles northwest of Omaha, and over branch lines of the Omaha and Union Pacific it is 78 and 132 miles, respectively, from the same point.

In *Robinson* v. *C. & N. W. Ry. Co.*, 74 I.C.C. 482, decided in 1922, division 3 found the rates on several commodities, including green and dry hides in carloads, from Norfolk to Chicago, Peoria, and Kewanee, Illinois, St. Louis and Kansas City, Missouri, and Duluth, Minnesota, not unreasonable and unduly prejudicial. The record in that case was not as fully developed as that in the instant case. It has already been seen that on October 1, 1924, or subsequent to the decision in the above case, the defendants voluntarily reduced the rate on hides from 62 to 53 cents. They say that this was done to take care of adverse market conditions.

In Exhibit 2, taken from complainant's exhibits, the rate assailed on green hides, or the lowest of all the rates under attack, and earnings per ton mile and per car mile thereunder, are compared with the rates on green hides, tallow and other commodities from points in Nebraska, Iowa, Minnesota, and the Dakotas, to Chicago and other points in the same general territory.

There is no transportation condition to justify the charging of a relatively higher basis of rates from points in Nebraska, such as Norfolk, west of Nebraska differential territory, than from points within that territory, and the fact that the carriers apply the differential basis from certain points in Nebraska and the higher combination basis from other points explains, or accounts for, the difference in the rates but affords no justification therefor.

We find that the rates assailed on green or green salted hides, pelts, skins, tallow, and grease, in straight or mixed carloads, were, are, and for the future will be unreasonable to the extent that they exceed, ex-

EXHIBIT 2

RATES ON GREEN HIDES, TALLOW, ETC., FROM VARIOUS POINTS WEST TO CHICAGO AND SAULT STE. MARIE, MICHIGAN

From	To	Commodity	Distance	Rate	Car-Mile Earnings*	Ton-Mile Earnings†
			Miles	Cents	Cents	Mills
Norfolk, Nebr.	Chicago, Ill.	Green hides	578	53	32	18
Lincoln, Nebr.	"	Hides and tallow	535	40.5	27	15
Fremont, Nebr.	Sault Ste. Marie, Mich.	"	837	44.5	19	10
Lincoln, Nebr.	"	"	891	44.5	18	10
Omaha, Nebr.	Chicago, Ill.	"	487	36	26	14
Benson, Minn.	"	"	528	45.5	30	17
Sioux Falls, S. Dak.	"	"	547	37	24	13
Yankton, S. Dak.	"	"	569	36.5	23	12
Fargo, N. Dak.	"	"	657	48.5	26	14
Sioux City, Iowa	"	"	509	36	25	14
Norfolk, Nebr.	"	Cereal beverages	578	49	25	16
" "	"	Roofing material	578	41.5	28	14
" "	"	Wall board	578	36	24	12

*The earnings per car mile are based on the minima of 36,000 pounds on hides and tallow, 30,000 pounds on cereal beverages, and 40,000 pounds on roofing and wall board.

†One ton of freight moved one mile.

ceeded, or may exceed 48.5 cents per 100 pounds, minimum 36,000 pounds.

We further find that complainant made the shipments as described; paid and bore the charges thereon; and was damaged thereby, and is entitled to reparation with interest in the amount of the difference between the charges paid and those which would have accrued at the rates herein found reasonable. . . .

An appropriate order will be entered.

WOODLOCK, Commissioner, dissenting in part:

I cannot agree to an award of reparation in the instant case on shipments moving prior to the date of complaint at rates found not unreasonable by division 3 in *Robinson* v. *C. & N. W. Ry. Co.*, 74 I.C.C. 482.

Did all the parties in interest in this case benefit from the commission's power to regulate rates?

4. SILK ASSOCIATION OF AMERICA *v.* PENNSYLVANIA RAILROAD COMPANY[1]

RATES ON SILK

MEYER, Commissioner:

Raw silk may consist of the silk thread as imported; the thrown silk,

[1] 44 I.C.C. 578 (May 5, 1917).

which is several threads combined by what is known as the process of throwing; or spun silk, sufficiently described by its name. There is a small amount of artificial raw silk, which is not differentiated from other raw silk. Silk waste consists of fiber from the cocoon from which silk is taken which cannot be reeled, fiber left in the process of manufacturing spun silk and which is called noils, or cocoon remnants and punctured or pierced cocoons. Complainant, a corporation organized not for profit but for the protection of the interest of its 300 members, asks in this proceeding that, regardless of value, the rating in the official classification of raw silk on wooden spools, bobbins, or warp beams, and waste silk in bags, bales, or boxes, less than carload, be made second class; and of other raw silk first class. The present ratings assailed as unjust and unreasonable and unjustly discriminatory and prejudicial are first class on silk waste and on raw silk of a value not in excess of $1 per pound and one and a half times first class on raw silk in excess of that value. As all raw silk, except a negligible quantity called Tussah silk, is worth more than $1 per pound, the practical effect of the present classification is a rating of one and a half times first class on raw silk throughout official classification territory. Prior to 1903 raw silk was not rated in official classification but was accepted for transportation by special agreements only. In that year raw silk and waste silk were accorded a rating of first class when released to a value of $1 per pound; and three times first class when not so released. Upon the passage of the first Cummins amendment the present tariff rating on raw silk was filed to become effective June 2, 1915. The rating on silk waste has not been changed since 1903.

Under the tariffs prior to June 2, 1915, shippers of raw silk could pay the first-class rate at the released value and obtain insurance for the full value at a cost not in excess of 10% of that rate. The present rating results in an increased rate, the burden of proof to justify which is on the carriers. No increase has been made in the ratings on silk waste since January 1, 1910.

The average value of raw silk is $3.84 per pound. The value per shipping pound of the different kinds of raw silk and silk waste is as shown in Exhibit 1.

The "shipping pound" includes the weight of the package in which

EXHIBIT 1

VALUE PER SHIPPING POUND OF DIFFERENT KINDS OF RAW SILK AND SILK WASTE

Commodity	Raw Silk	Thrown Silk	Spun Silk	Waste		Noils	Thrown Silk on Spools	Spun Silk on Spools
				Asiatic	European			
Density or weight per cubic foot, pounds....	22	15	28	30	9	8	20	20
Value per gross shipping pound.....	$3.20	$3.75	$2.30	$0.65	$0.60	$0.28	$2.00	$1.25

the silk is shipped; and, when used, the spool, bobbin, warp beam, or cone on which it is wound.

Raw silk is transported from importer to throwster, thence to the dyer, and back to the importer, so that the carriers obtain three, sometimes more, hauls of the same commodity. However, much of this transportation is by express on which shipments the carriers receive from the express companies more than when shipments are made by freight. Shipments are made in well-packed bales weighing from 108 to 240 pounds, the average shipment of the raw article being from 10 to 15 bales, and of thrown silk 1 to 2 bales.

The concentration of value in shipments of raw silk and silk waste makes such shipments hazardous to the carrier. This is illustrated by an exhibit of record showing one shipment of 20 bales of a value of $11,136, 22 shipments consisting of 139 bales valued at $77,510.40, and 24 shipments of 147 bales valued at $84,940.80. One wreck cost a carrier in payments for loss of these commodities $10,680.70, as much as its revenues from the traffic thereon for two years. The loss and damage claims paid, taking all the shipments on which the record shows such payments, are, however, not in excess of 1% of the revenue paid thereon and are less than the percentage of loss and damage payments to revenue received from all commodities. Insurance against all loss could be obtained at a cost amounting to from 5% to 10% of the first-class rate, but the insurer reserves the right of subrogation against the carrier in case of loss.

The increase of 50% in the rating on raw silk cannot be justified and is not sought to be justified solely because of the increased hazard resulting from the full liability required by the first Cummins amendment. The increase in the hazard is not the only fact to be considered in prescribing rates for the transportation of highly valued commodities. The Supreme Court in *N. P. Ry.* v. *North Dakota,* 236 U.S. 585, 599, in giving some of the many factors which should be considered in making rates, names "the risk assumed" and also "the value of the service." This commission has throughout its history given consideration to the value of a commodity when determining what is a reasonable rate thereon.

Illustrative of the value of service is the percentage that the rate paid bears to the value of the article. This percentage on raw silk is less than 0.15 of 1%, while such percentages on other articles of necessity and daily use are much higher. Below is a table introduced in evidence by the chairman of the official classification showing such percentages:

	Percentage		Percentage
Butter	0.9	Beans	4.8
Clover seed	1.2	Potatoes	14.8
Cotton	1.6	Sweet potatoes	5.0
Eggs	1.3	Oats	6.0
Apples	13.6	Barley and rye	7.3
Corn	9.2	Hay	15.8
Average for all grains	7.7	Cattle and hogs	2.5
Live poultry	4.5	Wood	0.6

Silk is one of the commodities of the highest value in proportion to the ratio which the charges bear to the value of the commodity.

Because of the "less value per shipping pound" of the commodity when shipped on spools, bobbins, and so forth, complainant contends that there should be lower rates on such shipments. This contention is based on the one element of ratio of value to density and disregards the value of the service. Such an extreme differentiation is not practicable, especially on a commodity like spun or thrown silk when shipped in less-than-carload quantities. Some such silk is wound on cones or paper coils, as to which no relief is asked. To make the rates on silk wound on spools and bobbins different from the rates on silk wound on cones and paper coils would lead to an impracticable multiplication of rates. While in the general description of dry goods, classified first class in less-than-carload shipments, there are included some commodities like velvet of a value somewhat similar to that of silk, no unjust discrimination or undue preference results. The dry goods list must be considered as a whole and this record presents no justification for including raw silk in that classification.

From all the facts of record we find and conclude that the rates assailed are neither unreasonable nor unjustly discriminatory, and the complaint will be dismissed.

1. How would this question have been affected by a sharp decline in the price of silk, arising from largely increased supplies put on the market?

2. Is the high rate on silk based upon charging what the traffic will bear? or upon cost?

5. Alabama-Georgia Syrup Company *v.* Atlantic Coast Line Railroad Company, *et al.*[1]

REASONABLE RATE

Report of the Commission
Division 1, Commissioners Lewis, McManamy, and Woodlock by Division 1:

Exceptions were filed to the report proposed by the examiner, and the case was orally argued.

Complainant, a corporation manufacturing refined table syrup at Montgomery, Alabama, by complaint filed November 17, 1923, alleges that the rate of 64 cents on table syrup, packed in tin, in carloads, from Montgomery to Tampa, Florida, was and is unjust and unreasonable. The prayer for reparation was withdrawn at the hearing. Rates are stated in amounts per 100 pounds.

[1] 113 I.C.C. 283. Submitted January 27, 1926.

Rates on syrup, and commodities in general, from Montgomery to Tampa are constructed by using the rate to Jacksonville, Florida, and a proportional or basing rate beyond. In the present case the through rate of 64 cents is composed of the local rate of 28.5 cents from Montgomery to Jacksonville, plus the proportional or basing rate of 35.5 cents beyond. The local rate from Jacksonville to Tampa is 22.5 cents, or 13 cents less than the proportional rate. . . . Generally speaking, a proportional rate[1] is lower than the local rate between the same points, and ordinarily there should be no reason for the through rate to exceed the combination of locals, for it is obvious that the cost of handling a through shipment is less than that of handling a shipment into and out of some point intermediate to final destination. Thus it is presumptively unreasonable to require the complainant in the instant case to pay a through rate of 64 cents where under the tariffs it is permissible to ship a carload of syrup into Jacksonville, unload and reload the contents into another car, and reship it to Tampa at a cost of 13 cents per 100 pounds less than the rate charged complainant.

As further evidence of unreasonableness, complainant compares the present rate on syrup from Montgomery to Tampa with rates on the same commodity from New Orleans, Louisiana, Memphis and Nashville, Tennessee, to the same destination, as follows:

To Tampa, Florida, from	Distance (Miles)	Rate (Cents)
Montgomery, Ala.	516	64
New Orleans, La.	749	55.5
Memphis, Tenn.	848	59
Nashville, Tenn.	786	58

Although Montgomery is nearer Tampa by several hundred miles, it will be noted that the rate from Montgomery is considerably higher than from the other points named. Defendants point out that there is a boat line between New Orleans and Tampa, and contend that the rate from New Orleans is affected by water competition, but there is no evidence of any movement of syrup by water from New Orleans to Tampa. Besides it cannot be contended that water competition compelled the rates from Memphis and Nashville to Tampa, which are approximately on the same level as the rate from New Orleans. Complainant stresses the fact that the rates from New Orleans, Memphis, and Nashville to Tampa approximate those prescribed in the *Memphis-Southwestern Investigation,* 77 I.C.C. 473. Complainant suggests that the rate on syrup from Montgomery to Tampa should be 48 cents, or the same as applies under the scale prescribed in the *Memphis-Southwestern Investigation, supra,* for this distance.

[1] Proportional rates may be defined as rates applying to a part of a through journey (in this case to that part of the through journey from Jacksonville to the point of destination) which differ from the corresponding local rates (*i. e.,* rates on traffic originating at Jacksonville and bound to the same point of destination) and which are applied only when the traffic is from a point beyond or to such a point.

Defendants contend that the 64-cent rate assailed is reasonable on a lower level than many rates in effect from Montgomery to points of comparable distances. They submit many comparisons throughout the Southeast of commodity rates on syrup as high as or higher than the rate from Montgomery to Tampa, but they do not show any movement under these rates. Defendants also compare the rate assailed with rates on canned goods, soap, and other articles from Montgomery to Tampa to show that the rates on syrup are lower than on any of the commodities named. They argue that the comparison with canned goods is especially apt since syrup is packed in tins, and is worth more than a carload of canned goods. But these comparisons in our opinion are insufficient to overcome the presumption of unreasonableness arising from the fact that the rate assailed exceeds the aggregate of intermediate rates, and is out of line as compared with the rates on syrup from the refining points of Memphis, Nashville, and New Orleans.

1. Criticize the defendant's arguments .
2. What would you suggest as a reasonable rate?

6. Powhatan Valley Railroad

NONCOMPETITIVE RATE

The Burfen Chemical Company had a plant at Verona, an eastern tidewater city located 11 miles south of Bruceton, a manufacturing and commercial center with a population of more than a million. The company marketed its products throughout New England, the Atlantic states, and the Middle West.

In 1924 the Burfen Chemical Company contemplated marketing silicate at Remington, which was 32 miles south of Verona. Although three railroads entered Verona, only one, the Powhatan Valley Railroad, reached Remington, as shown by Exhibit 1.

On the north and south lines of the railroads in the vicinity of Bruceton the heavy traffic direction was northward; on the east and west lines it was eastward.

The traffic manager of the Burfen Chemical Company consulted the tariffs of the Powhatan Valley Railroad and found that the rate on silicate from Verona to Remington was 13 cents per 100 pounds, although to Magnolia, 13 miles south of Verona, the rate was 8 cents per 100 pounds. The 13-cent rate applied to all stations between Magnolia and Thomas, which was 89

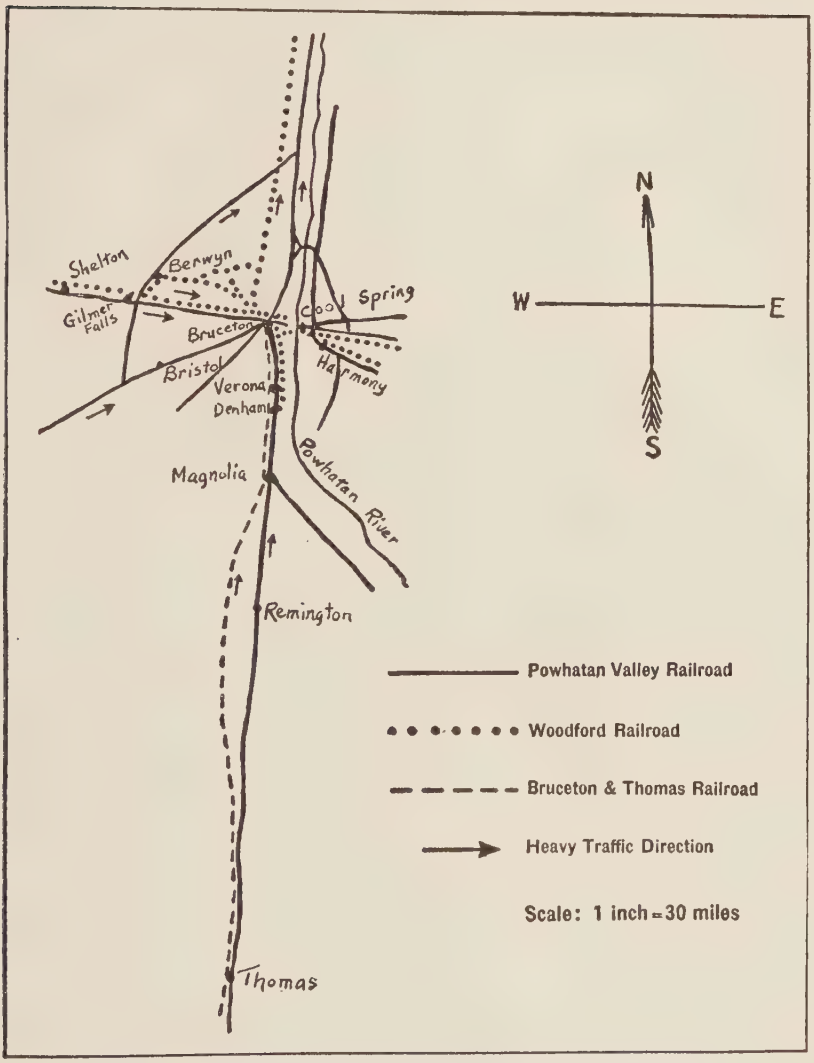


Exhibit 1: Portion of area served by Powhatan Valley Railroad.

miles south of Verona. Remington was intermediate between Magnolia and Thomas.

The traffic manager of the Burfen Chemical Company requested the Powhatan Valley Railroad to grant a commodity rate on silicate of 9 cents per 100 pounds from Verona to Remington, stating in the request that a rate of 8 cents per 100

pounds applied to Magnolia, and that Remington was but a short distance south of Magnolia. He further stated that the 13-cent rate, which applied to points 89 miles from Verona, was too high for the distance between Verona and Remington, and that unless a lower rate were granted, the company would not be able to obtain its potential business in Remington.

The general freight agent of the Powhatan Valley Railroad to whom the Burfen Chemical Company's request was referred for action, drew up a table (Exhibit 2) showing the railroad's rates on silicate to points in the Bruceton district.

There was no commodity rate on silicate in effect on the Powhatan Valley Railroad from Verona to Remington, although commodity rates on silicate were in effect between practically all other stations noted in Exhibit 2; the railroad had to meet competition between most of these points. On the other hand, the only rates which were lower than 9½ cents applied to distances of 11 and 13 miles. The 9½-cent rate from Verona to Cool Spring was a competitive rate. Cool Spring was directly across the river from Bruceton. The air-line distance between Verona and Cool Spring was 13 miles, but, because the Powhatan Valley Railroad line between the two points extended 15 miles north of Bruceton on one side of the river to the only bridge in the vicinity and the same distance back on the other side, the rail distance over that line was 41 miles. The Woodford Railroad floated cars across the Powhatan River from Bruceton to Cool Spring. By that line, the distance from Verona to Cool Spring was only 15 miles.

Upon investigation, the general freight agent of the Powhatan Valley Railroad found that no silicate was shipped from Bruceton to Magnolia under the 11½-cent rate. He decided, therefore, to cancel that rate. He then offered the Burfen Chemical Company a rate on silicate of 11½ cents from Verona to Remington. The Burfen Chemical Company, however, refused to accept the 11½-cent rate. The company stated that it was of the opinion that, in view of the 8-cent rate from Verona to Magnolia, a rate of 9 cents to Remington would be fair. The company also called attention to the 9½-cent rate in effect between Verona and Cool Spring.

Although the traffic manager of the Burfen Chemical Company had stated that Remington was but a short distance below

EXHIBIT 2

POWHATAN VALLEY RAILROAD'S FREIGHT RATES ON SILICATE, 1924

From	To	Miles	Proposed Rate	Existing Rate (5th class)
Denham	Remington	29	9 Cents	13 Cents
Verona	Remington	32	9 Cents	13 Cents
From	**To**	**Miles**	**Existing Commodity Rate**	**Existing Rate (5th Class)**
Denham	Magnolia	11	8 Cents	11½ Cents
Verona	Magnolia	13	8 Cents	11½ Cents
Bruceton	Magnolia	25	11½ Cents	15½ Cents
Bruceton	Remington	44	none	15½ Cents
Verona	Berwyn	40	11½ Cents	15½ Cents
Verona	Bristol	32	11½ Cents	15½ Cents
Verona	Gilmer Falls	38	11½ Cents	15½ Cents
Verona	Shelton	47	11½ Cents	15½ Cents
Verona	Harmony	45	11½ Cents	15½ Cents
Verona	Thomas	89	13 Cents	19 Cents
Bruceton	Thomas	100	15½ Cents	19 Cents
Verona	Bruceton	11	7 Cents	13 Cents
Verona	Cool Spring	41	9½ Cents	15½ Cents

Magnolia, the distance from Remington to Magnolia actually was greater than that from Magnolia to Verona. His argument for a rate slightly above that to Magnolia therefore was weak. Since the company had markets for silicate in Bruceton and other cities to the north, it would not be prevented from doing all business in that commodity if it could not gain an entrance into the Remington market. There was no possibility that another railroad would get the potential traffic of the Burfen Chemical Company if that company refused to take the rate offered by the Powhatan Valley Railroad, since that railroad was the only one to enter Remington. On the other hand, no silicate would move from Verona to Remington if a sufficiently low rate were not granted. The matter was resolved into a question of whether or not a rate satisfactory to the Burfen Chemical Company would pay the cost to the railroad of moving the freight.

The general freight agent of the railroad believed that if a rate of 9½ cents was satisfactory from the railroad's point of view for a 41-mile haul in the heavy traffic direction, the rate could be quoted safely for a 32-mile haul in the light traffic di-

rection. He decided therefore to offer the Burfen Chemical Company a rate of 9½ cents. Although the railroad believed that the 9½-cent rate would afford but a slight margin above the out-of-pocket costs of moving the traffic, the movement was in the light traffic direction and the cars in which the silicate would be shipped would otherwise be hauled empty between Verona and Remington.

Should the Burfen Chemical Company have accepted the 9½-cent rate?

XXXV

RAILROAD PROBLEMS—MANAGEMENT

Black, 887-888; Clay, 127-136; Edie, 745-755; Ely, 552-578; Fairchild, II, 3-45; Gide, 240-255; Marshall, 484-487; Rufener, 328-355; Seager, 448-467; Seligman, 572-597; Taussig, II, 407-418.

1. Dodge City & Cimarron Valley Railway Company[1]

CONSTRUCTION OF EXTENSION

Report of the Commission

Division 4, Commissioners Meyer, Eastman, and Woodlock by Division 4:

The Dodge City & Cimarron Valley Railway Company, a corporation organized for the purpose of engaging in transportation by railroad subject to the Interstate Commerce Act, on April 3, 1926, filed its application for a certificate under the provisions of paragraph (18) of Section 1 of the act that the present and future public convenience and necessity require the construction by it of an extension of its line of railroad from its terminus at Manter, Stanton County, Kansas, in a general westerly and southwesterly direction to a point near Joycoy, Baca County, Colorado, a distance of approximately 56 miles. No representations have been made by state authorities. The Public Service Commission of Kansas has issued a certificate authorizing the applicant to transact the business of a common carrier from Manter to the Colorado State line. The Public Utilities Commission of Colorado has issued a certificate authorizing the construction of the part of the proposed line that would be located in Colorado. No objection to the granting of the application has been presented to us.

The applicant is controlled by the Atchison, Topeka & Santa Fe Railway Company, hereinafter called the Santa Fe, which owns all its capital stock except directors' qualifying shares. It owns approximately 174 miles of railroad in southwestern Kansas. Its lines are operated by the Santa Fe under lease pursuant to authority granted by our order entered May 16, 1923, in *Control of D. C. & C. V. Ry. by Santa Fe,* 79 I.C.C. 449. The proposed extension when constructed will fall within the terms of this lease and will be operated by the Santa Fe.

[1] Finance Docket No. 5447. Submitted May 14, 1926.

The purpose of the extension is to serve a territory largely remote from railroads. This territory is part of an area about 100 miles square, located mainly in Colorado, but extending into Kansas, Oklahoma, and New Mexico, not penetrated by any railroad. This area, roughly rectangular, is bounded on the southwest by the Colorado & Southern Railway and on the other sides by lines of the Santa Fe. The proposed extension would reach nearly to the center of the area, dividing almost evenly the space, 70 to 100 miles wide, between two lines of the Santa Fe, and ending about 60 miles from the nearest line of railway other than the two just mentioned.

The area of the territory to be served is estimated at 3,532 square miles, or 2,260,480 acres, 96% of which is in Baca and Las Animas counties, Colorado. Less than 1% of this area is in timber, the rest being divided between cultivated land and pasture land. The area of cultivated land is estimated at 681,600 acres, 596,000 of this being in Baca County. The population of the territory to be served is estimated at 10,700. Other than Manter, the present terminus of the line to be extended, the only cities, towns, or villages on the proposed route are Springfield, an incorporated town and the county seat of Baca County, with an estimated population of about 600, and Vilas, a village with an estimated population of about 75. There is a general store and post office at Joycoy, but no village or town. There is no city, town, or village having a population of 200 or more within 10 miles of the proposed route.

Grazing and farming are the chief industries. The principal crops are wheat, coarse grains, and broomcorn. It is represented that the industries mentioned have been carried on for about 25 years, but development has been slow because of lack of transportation facilities; that the expense of marketing products has been so great that development has been retarded, and that the present development can increase but little until a railroad is built, the average haul to a railroad being about 48 miles; that the country is a dry farming region of much promise, having an average rainfall of 16 to 20 inches, and approximately three-fourths of the area that would be tributary to the proposed extension being cultivable; but that many farmers are leaving and many of those remaining are raising stock instead of tilling the land because they cannot afford to haul their products the great distances required to reach railroads. It is claimed that permanent future growth will be assured with the building of the proposed extension.

The estimated outbound traffic for the first year of operation is as follows: 800,000 bushels of wheat, 1,000,000 bushels of coarse grains, 5,000 tons of broomcorn, and 600 cars of live stock. Corresponding figures for the fifth year are 1,500,000 bushels of wheat, 3,000,000 bushels of coarse grains, 7,000 tons of broomcorn, and 1,400 cars of live stock. The average system haul expected, including the extension, is 490 to 800 miles for the several commodities. It is estimated that

the inbound tonnage incident to the development of the country, together with outbound shipments of minor farm products, may average about 3,000,000 pounds of less-than-carload freight a year for the first five years. It is estimated that approximately 30% of the traffic that would move over the proposed extension would be diverted from existing lines of the Santa Fe system and that about 70% would be net additional business.

The gross revenue to be derived by the Santa Fe system, including the extension, from all traffic to and from the extension is estimated at $609,500 for the first year, increasing almost uniformly to $1,248,910 for the fifth year. Corresponding net railway operating income is estimated at $301,307 for the first year and $663,833 for the fifth. In determining the net railway operating income the applicant has estimated that the traffic from the extension can be handled over the existing lines at an out-of-pocket cost equal to 46.2% of the gross revenue accruing to those lines from such traffic.

The estimated cost of the proposed extension is $1,890,527. No expenditure for equipment is contemplated. It appears that 325 citizens of Baca County have signed and delivered an agreement granting free of cost to the applicant such right of way and station grounds as may be needed for the extension. The applicant has agreed with them to construct the extension subject to our approval. While some of the traffic included in the applicant's estimates, and the revenue to be derived therefrom, would be received by the Santa Fe in any event, and while it is believed that the estimate of cost of handling the additional traffic over the Santa Fe system lines, other than the extension, is too low, the conclusion appears to be warranted that the proposed extension, considered as a part of the Santa Fe system, should develop sufficient traffic and earnings to justify its construction. Funds for construction are to be provided by the Santa Fe as required, without present issuance of securities. It is expected that later, subject to our approval, bonds or certificates of indebtedness of the applicant will probably be issued to the Santa Fe.

The proposed extension is to have 1% maximum grades and very little curvature. The track is to be laid with 90-pound re-lay rail, with creosoted ties, and without ballast. The applicant wishes to commence construction at once. It had set May 15, 1926, as the date to begin construction and had expected to complete the work within one year if begun at the date tentatively fixed.

1. Did the facts presented show that the present and future public convenience and necessity required the construction by the applicant of the extension of its line of railroad as described in the application?

2. Would your answer be different if an independent company had sought to build this line?

2. Walworth Railroad

IMPROVING FREIGHT-TRAIN OPERATIONS

The Walworth Railroad, an eastern carrier approximately 500 miles in length, served a somewhat sparsely settled agricultural community, and its freight traffic consisted principally of commodities which moved from midwestern points to the Atlantic seaboard. Its passenger service was relatively unimportant.

For a long series of years the Walworth Railroad had financial difficulties. Several years previous to 1924 it had passed through a receivership and reorganization. The reorganization was not entirely successful from the viewpoint of adjusting securities to correspond with net earning power, and the company since then had failed to earn dividends.

Prior to 1922 the greater part of the capital stock and a substantial part of the bonds had been held by the Granada Railroad. Although operated independently, the Walworth Railroad was generally regarded as an affiliated part of the Granada Railroad system. The Granada Railroad, through overexpansion, had injured its credit, and it had so much difficulty in maintaining its own solvency that it gave little attention to the needs of the Walworth Railroad. As a consequence, the Walworth Railroad was unable to finance needed improvements. Its trackage in terminals and sidings, its engine-house facilities, and its rolling stock were inadequate both quantitatively and qualitatively.

The Granada Railroad's financial troubles came to a head about 1922 and the control of the company passed[1] to the Caledonia Railroad system, a company with larger financial resources. Fol-

[1] In another case the Interstate Commerce Commission, passing on the application of one railroad company to acquire control of another railroad company by acquisition of its capital stock, and of the physical railroad property of that company by lease, as permitted by Section 5, paragraph 2 of the Transportation Act of 1920, said: "The applicant contends, in effect, that the proposed acquisition will reduce the number of operating companies, will simplify the relations of such companies to the traveling and shipping public and to the State and Federal authorities having jurisdiction, will make possible the unification of standards and practices, will promote convenience and simplicity and effect economies in operation and in accounting, will aid in the general development of an important territory naturally tributary to its Coal River district, and will bring about greater operating efficiency and more dependable service to the shippers and territory served and to the general public. These contentions are substantiated by the record," and authorized such stock acquisition and the making of the lease, while expressly denying authority to purchase the physical railroad property. —Finance Docket 5992, Control of Pond Fork & Bald Knob R. R. Co. by Chesapeake & Ohio; 105 I. C. C. 800.

lowing the change the policy of the consolidated company toward the Walworth Railroad was one of helpfulness. The officials of the Caledonia Railroad recognized certain possibilities in the development and greater use of the Walworth Railroad and, after a careful investigation had been made, offered to advance the necessary funds for deferred improvements. A five-year program, in which approximately $12,000,000 would be expended for additional sidings, additional tracks in yards and interchange points, strengthening of bridges, enlargement and rebuilding of engine houses, new and more powerful locomotives, and new cars, was undertaken, and the necessary funds were made available to the Walworth Railroad.

The first part of the appropriation was spent in 1923, and a few of the urgently needed items in the program of betterments were completed. The five-year program was supported by a study and forecast in which a definite promise of substantial operating economies was given by the Walworth Railroad management. These economies could not be realized in their entirety until the full program of improvements had been completed, but the management of the Walworth Railroad was anxious to show favorable results from the initial expenditure of 1923. Since these expenditures had been mainly for additional sidings, rearrangement of yard tracks, new locomotives, and engine-house improvements, an effort was made to bring about substantial economies in train service costs.

The management took pains to acquaint the employees as a whole, and particularly those in train, yard, station, and engine-house services, with the object of the program, and set out to enlist their interest and cooperation. In order to focus attention upon one specific item, the management decided to stress the statistical unit "gross ton miles per train hour," to educate the employees to its significance, and, by increasing that unit, reduce operating costs, increase traffic carrying capacity, and give better transportation service.

The unit "gross ton miles per train hour" is the resultant of the train load and the train speed. Ordinarily, the major emphasis is placed upon the train load and relatively little attention is given to the train speed. Train costs correspond more closely with train hours than with train miles. Fuel consumption is more a function of time than a function of distance. Train wages in

freight service, although stated in rates per mile, are in nearly every case virtually on an hourly basis, as the guaranteed minima in miles per hour are usually greater than the actual miles. The further factor of punitive rates for overtime hours has an important bearing.

It is obvious that a 2,000-ton train which moves 100 miles in 10 hours produces exactly the same number of ton miles as a train of the same weight which is run the same distance in 7 hours. The gross revenue would be the same in each case, but the cost in the first case would be based upon 10 train hours and in the second case upon 7 train hours, and the cost per ton mile in the second case would be substantially lower. Besides, there would be a theoretical saving of 3 hours in which the tracks could be used by other trains, a factor which has an important bearing when the traffic of a road has nearly reached the point of saturation.

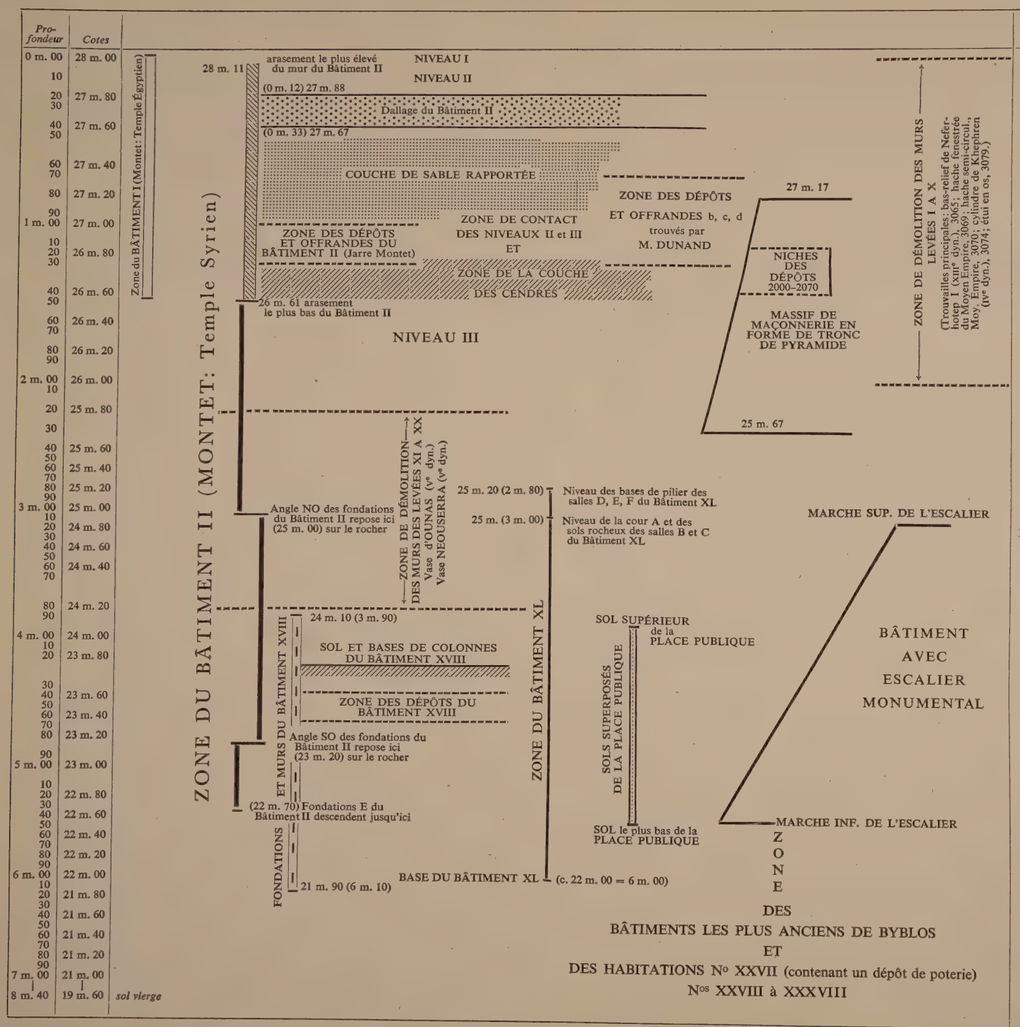
After deciding to enter upon a campaign for increasing the gross ton miles per train hour, the management's first move was quietly to post a chart in each engine house, yard office, important station, and all operating department offices, a chart showing graphically the total gross ton miles and the gross ton miles per train hour by weeks during the year 1923 with the corresponding curve carrying the same information for the first month in 1924. After these charts had been posted several weeks, and had aroused some curiosity on the part of employees, the general manager, under date of February 14, 1924, issued a circular which called attention to the charts, explained what was meant by the statistical unit, and described how the basic data were computed. Then he added, "The efficiency of all railroads is being checked on their performance in gross ton miles per train hour and it is to the interest of the employees as well as the management that the Walworth Railroad make a very good showing. It is trusted that the men will watch these statements showing the improvements they are making week by week, and will do everything in their power to eliminate unnecessary delays on the line so as to increase the gross ton miles per train hour."

Beginning March 4, 1924, the general manager issued bulletins giving the figures for the gross ton miles per train hour attained during the preceding months.

The result of this campaign was to bring about substantial

PLANCHE XVIII. BYBLOS. Coupe stratigraphique établie par l'auteur d'après les indications contenues dans P. Montet, *Byblos et l'Égypte* et M. Dunand, *Fouilles de Byblos*, i. Cf. ici §§ 31 et suiv., pp. 50 et suiv.

A. STRATIGRAPHIE DES BÂTIMENTS ET DES DÉPÔTS DE BYBLOS


Profondeur
Cotes
Zone du BÂTIMENT I (Montet: Temple Égyptien)
28 m. 11
arasement le plus élevé du mur du Bâtiment II
NIVEAU I
NIVEAU II
(0 m. 12) 27 m. 88
Dallage du Bâtiment II
(0 m. 33) 27 m. 67
COUCHE DE SABLE RAPPORTÉE
ZONE DES DÉPÔTS ET OFFRANDES DU BÂTIMENT II (Jarre Montet)
ZONE DE CONTACT DES NIVEAUX II et III ET
ZONE DES DÉPÔTS ET OFFRANDES b, c, d trouvés par M. DUNAND
27 m. 17
NICHES DES DÉPÔTS 2000–2070
ZONE DE LA COUCHE DES CENDRES
26 m. 61 arasement le plus bas du Bâtiment II
NIVEAU III
MASSIF DE MAÇONNERIE EN FORME DE TRONC DE PYRAMIDE
25 m. 67
ZONE DE DÉMOLITION DES MURS LEVÉES I A X
(Trouvailles principales: bas-relief de Neferirkare-Kakai (Ve dyn.), 305; haches-ciseaux du Moyen Empire, 3069; hache semi-circulaire du Moy. Empire, 3070; cylindre de Khephren (IVe dyn.), 3074; étui en os, 3079.)
ZONE DU BÂTIMENT II (MONTET: Temple Syrien)
Angle NO des fondations du Bâtiment II repose ici (25 m. 00) sur le rocher
ZONE DE DÉMOLITION DES MURS DES LEVÉES XI A XX
Vase d'OUNAS (Ve dyn.)
Vase NEOUSERRA (Ve dyn.)
25 m. 20 (2 m. 80)
Niveau des bases de pilier des salles D, E, F du Bâtiment XL
25 m. (3 m. 00)
Niveau de la cour A et des sols rocheux des salles B et C du Bâtiment XL
MARCHE SUP. DE L'ESCALIER
24 m. 10 (3 m. 90)
SOL ET BASES DE COLONNES DU BÂTIMENT XVIII
ZONE DES DÉPÔTS DU BÂTIMENT XVIII
ZONE DU BÂTIMENT XVIII ET MURS DU BÂTIMENT XVIII
SOL SUPÉRIEUR de la PLACE PUBLIQUE
SOL SUPERPOSÉS DE LA PLACE PUBLIQUE
BÂTIMENT AVEC ESCALIER MONUMENTAL
Angle SO des fondations du Bâtiment II repose ici (23 m. 20) sur le rocher
ZONE DU BÂTIMENT XL
(22 m. 70) Fondations E du Bâtiment II descendent jusqu'ici
FONDATIONS
21 m. 90 (6 m. 10)
BASE DU BÂTIMENT XL
(c. 22 m. 00 = 6 m. 00)
SOL le plus bas de la PLACE PUBLIQUE
MARCHE INF. DE L'ESCALIER
ZONE DES BÂTIMENTS LES PLUS ANCIENS DE BYBLOS ET DES HABITATIONS Nº XXVII (contenant un dépôt de poterie) Nos XXVIII à XXXVIII
sol vierge

B. STRATIGRAPHIE DES PRINCIPALES TROUVAILLES ISOLÉES ET DES TOMBES DE BYBLOS

Numéros des levées et des trouvailles	Trouvailles diverses	Trouvailles égyptiennes
I	Louche rituelle, XIVe s. (1343), tesson mycénien (1474).	Ramsès II (XIXe dyn.), 1354, 1360.
1329–1520	Statuette chypriote (1361); fragment vase grec, rouge sur noir. Cratère mycénien (XIVe–XIIIe s.); lampe romaine (1505).	Pépi I (VIe dyn.), 1359.
II	Cratère mycénien, XIVe–XIIIe s. (1534); épingle (1542). Bilbil, XVe–XIVe s. (1545).	Cylindre au nom d'un des Aménemhat, 1551.
1521–1655	Louche rituelle, XIVe s. (1556), étui en os gravé (1528), fragments mycéniens, XIVe s. (1575).	
III	Cylindre (1658).	
1656–1734	Lampe hellénistique (1676). Cylindre (1683).	
IV	Pommeau de poignard, Moyen Empire (1725).	Osorkon II (XXIIe dyn.), 1741.
1735–1821		Pépi I ou II (VIe dyn.), 1742. Mycérinus (IVe dyn.), 1794.
V	Tesson mycénien, XIVe s. (1861); cylindre, XIXe–XVIIIe s. (1862).	
1822–1894	Pendeloque en or du temps d'Aménemhat III, 1850–1800 (nº 1859).	
VI		Pépi II (VIe dyn.), 1927.
1895–1999	Épingle (1992). Tesson mycénien, XIVe s. (1958).	Merenre (VIe dyn.), 1940.
2000–2321	Dépôts d'offrandes.	Thoutmosis III (XVIIIe dyn.), 1964.
VII	Fragments vase mycénien (2351).	Thoutmosis III (XVIIIe dyn.), 2325.
2322–2454	Vase mycénien, XIVe s. (2405). Étui en os (2343).	Scarabée dit hyksos, 2344. Pépi II (VIe dyn.), 2365.
VIII		Mycérinus (IVe dyn.), 2367.
2455–2515		Pépi I (VIe dyn.), 2466, 2469, 2473. Mycérinus (IVe dyn.), 2471.
IX	Fragments de vase du type dit de Tell Jahoudiyeh (2584).	Thoutmosis III (XVIIIe dyn.), 2500.
2826–2939		Pépi II (VIe dyn.), 2874.
X	Fragments de poterie désignés comme mycéniens, en réalité Minoen Moyen II (2986).	Aménemhat III (XIIe dyn.), 2905.
2940–3064	Scarabée Moy. Empire (2950), épingles (2974, 3055). Bilbils, XVe–XIVe s. (3002, 3026).	
XI	Tombes: grotte 3	Scarabée (XVIIIe dyn.), 3117.
3093–3174	jarre 4, 4 bis; épingles (3149, 3150) grotte 5.	Vase (albâtre), Anc. Emp., 3153.
XII	Tesson avec frise estampée (3232).	
3175–3256	Neuf pièces de monnaie en bronze (3248–56). Cylindre, XIXe–XVIIIe s. (3217).	
XIII	Fragments bols chypriotes, XVe–XIVe s. (3268–9).	
3257–3330	Épingle (3320).	
XIV		
3331–3412		
XV	Cruche du type dit de Tell Jahoudiyeh (3489). Tombe, grotte 6.	
3413–3533		Pépi I ou II (VIe dyn.), 3530.
XVI–XVI bis	Épingles (3572, 3583). Amphorette (3559).	
3534–3615		
XVII	Hache plate gravée de tête de cerf (3680).	
3616–3681	Épingles (3616, 3621, 3648, 3667, 3673).	
XVIII		
3682–3757		
XIX		Téti (VIe dyn.), 3753.
3758–3873	(*Syria*, 1928, p. 179) Étui en os (3776).	Pépi I ou II (VIe dyn.), 3792, 3860.
	'nombreuses traces de cendres' Épingles (3770, 3826, 3827, 3866). Torques (type Ugarit Moyen 1, 2100–1900 (3915)).	Pépi II (VIe dyn.), 3800. Ounas (Ve dyn.), 3867, 3980–1.
XX	Gourdes (3927, 3928), amphorette décor peigné (3815).	Cylindre (Anc. Emp.), 3920.
3874–3996	'cendres très compactes, calcination intense' Épingles (3921, 3974, 3975). Vases (3927, 3928). Torques (3915).	
XXI	'toujours en plein dans les cendres' Vase du Minoen Ancien III ou Minoen Moyen I (4170)	Pépi I (VIe dyn.), 4147, 4149.
4121–4341	Cylindre de IIIe dyn. d'Ur ou Ie dyn. babylonienne (4183). Épingle (4168).	
XXII	Épingle à enroulement (4386).	
4342–4512		Pépi I (VIe dyn.), 4366.
XXIII	Épingles (4536, 4917). Dépôt de poteries (4552–4907), salle C, Bâtiment XVIII.	Chéops (IVe dyn.), 4506.
4513–4947		Néferirkare-Kakai (Ve dyn.), 4909.
XXIV	Épingles (4956, 5020). Cruche (4994).	Pépi I ou II (VIe dyn.), 4941.
4948–5031	Étui en os (4953, 5024, 5029).	
XXV	Ciseau (5066). Amphorette peinte (5071).	
5032–5094	Gobelets (5090, 5094).	
XXVI	Épingle (5128).	
5095–5149		
XXVII	Épingles (5162, 5193).	Mycérinus (IVe dyn.), 5120.
5150–5199		Pépi I ou II (VIe dyn.), 5141.
XXVIII	Épingles (5226, 5228, 5229).	Pépi I (VIe dyn.), 5191.
5200–5232		
XXIX	Épingle (5251).	
5233–5275		
XXX	Épingle (5300).	
5276–5334	Gobelet, terre fine (5334).	
XXXI		
5335–5349		
XXXII	Tombes dans jarres 10, 11. Os gravé (5373); épingle (5372).	
5350–5373		
XXXIII	Tombes dans jarres 12–15, 100–9. Dépôt de poteries, levées XXXII et XXXIII (5390–5416).	Disque (selon Prof. Gunn, VIe dyn.), 5366.
5374–5447		Pépi I ou II (VIe dyn.), 5446.
XXXIV	Tombes dans jarres 16–21, 102, 110–13.	
5448–5490		
XXXV	Tombes dans jarres 16–201.	
	Tombes dans grottes 7–9.	
XLII		
(5491–5978)		

NIVEAU II

NIVEAU III

sol vierge

Profondeur	Cotes
0 m. 00	28 m. 00
10	
20	27 m. 80
30	
40	27 m. 60
50	
60	27 m. 40
70	
80	27 m. 20
90	
1 m. 00	27 m. 00
10	
20	26 m. 80
30	
40	26 m. 60
50	
60	26 m. 40
70	
80	26 m. 20
90	
2 m. 00	26 m. 00
10	
20	25 m. 80
30	
40	25 m. 60
50	
60	25 m. 40
70	
80	25 m. 20
90	
3 m. 00	25 m. 00
10	
20	24 m. 80
30	
40	24 m. 60
50	
60	24 m. 40
70	
80	24 m. 20
90	
4 m. 00	24 m. 00
10	
20	23 m. 80
30	
40	23 m. 60
50	
60	23 m. 40
70	
80	23 m. 20
90	
5 m. 00	23 m. 00
10	
20	22 m. 80
30	
40	22 m. 60
50	
60	22 m. 40
70	
80	22 m. 20
90	
6 m. 00	22 m. 00
10	
20	21 m. 80
30	
40	21 m. 60
50	
60	21 m. 40
70	
80	21 m. 20
90	
7 m. 00	21 m. 00
8 m. 40	19 m. 60

Profondeur
0 m. 00
10
20
30
40
50
60
70
80
90
1 m. 00
10
20
30
40
50
60
70
80
90
2 m. 00
10
20
30
40
50
60
70
80
90
3 m. 00
10
20
30
40
50
60
70
80
90
4 m. 00
10
20
30
40
50
60
70
80
90
5 m. 00
10
20
30
40
50
60
70
80
90
6 m. 00
10
20
30
40
50
60
70
80
90
7 m. 00
8 m. 40

reductions in the ton-mile cost of fuel, wages of engine men and train crews, and other train service items. It also had the effect of speeding up the movement of cars. The extent of the improvement is shown in Exhibits 1 and 2. It will be noted that the increase in the unit, gross ton miles per train hour, has been accomplished with substantially the same volume of traffic.

The improvement was brought about by a better train load and by reducing the delays in getting the trains away from originating terminals; by reducing the time consumed in taking sidings, getting train orders, and other incidents connected with the road trip; and by reducing the delays from the moment of arrival at the entrance to the final terminal until the train was in the yard. The management was successful in securing real cooperation from the men in train and engine service, the yardmen and the telegraph operators. The posting of the charts did more than arouse the curiosity of the men; they displayed a keen interest in the weekly additions to the curves. As the statistics were given in detail by operating divisions, competition arose between the divisions in their effort to show the greatest improvement.

An indication of the relative improvement is shown by a comparison of the operating results of July, 1924, with those of July, 1923. In 1923, the Walworth Railroad, in comparison with six other railroads in its own territory, produced the smallest number of gross ton miles per train hour. The Walworth Railroad's average was 9,833. For the other six roads the highest was 13,329 and the lowest 10,190. In July, 1924, the Walworth Railroad's average was 12,182, a better figure than 3 out of the 6 of the neighboring roads whereon the average ranged from 10,244 to 14,745. In car miles per car day the Walworth Railroad made a gain from 23.5 miles to 28.5 miles, whereas, on the neighboring roads, with but one exception, the performance in 1924 was less favorable than in 1923.

That unit was based on all cars on the line, including those stored and unserviceable.

In fuel efficiency, expressed in the unit "pounds of coal per 1,000 gross ton miles," the Walworth Railroad ranked third in July, 1923, and in July, 1924, it ranked first.

During the first six months of 1924 the direct freight-train expenses of the Walworth were $1.392 per 1,000 gross ton miles.

EXHIBIT 3

DIRECT EXPENSES OF FREIGHT-TRAIN SERVICE OF WALWORTH RAILROAD PER 1,000 GROSS TON MILES, IN FIRST SIX MONTHS OF 1923 AND 1924

ITEM	JANUARY 1 TO JUNE 30	
	1924	1923
Locomotive repairs	$0.231	$0.324
Train enginemen	.229	.312
Fuel for train locomotives	.503	.817
Other locomotive supplies	.018	.020
Engine-house expenses	.079	.143
Trainmen	.270	.355
Train supplies and expenses	.062	.068
Total	$1.392	$2.039

The comparable expenses for the first six months of 1923 were $2.039. The details are listed in Exhibit 3.

The reduction in the cost of locomotive repairs was brought about in part by the use of a greater number of new locomotives in 1924 and by an improvement in shop morale which had been

EXHIBIT 4

OPERATING STATISTICS OF FREIGHT-TRAIN SERVICE OF WALWORTH RAILROAD IN FIRST SIX MONTHS OF 1923 AND 1924

ITEM	JANUARY 1 TO JUNE 30		PERCENTAGE OF CHANGE	
	1924	1923	Increase	Decrease
Gross ton miles (thousands)	581,538	566,293	2.7	
Net ton miles (thousands)	227,016	220,843	2.8	
Freight train miles	519,261	584,236		11.1
Freight locomotive miles	541,793	617,120		12.2
Freight car miles (thousands)	17,087	16,524	3.4	
Freight train hours	51,816	66,862		22.5
Tons of fuel consumed by freight locomotives	50,190	67,501		25.7
Cars per train	32.9	28.3	16.2	
Gross tons per train	1,120	969	15.6	
Net tons per train	437	378	15.6	
Net tons per loaded car	19.1	19.2		.5
Train speed in miles per hour	10.0	8.7	14.9	
Gross ton miles per train hour	11,223	8,470	32.5	
Net ton miles per train hour	4,381	3,303	32.6	
Net ton miles per car day	386	299	29.0	
Car miles per car day	28.2	21.6	30.5	
Coal (lbs.) per 1,000 gross ton miles	150	204		26.5

adversely affected by the shopmen's strike in 1922-1923. The cost of fuel per ton mile was favorably influenced by a slight reduction in the price of coal per ton. It should be noted also that the months of January and February, 1923, were marked by unusually severe snow troubles.

The significant items in the statistics of freight-train service during the first half of the year 1924, compared with the performance during the first half of the year 1923, are shown in Exhibit 4.

The management in November, 1924, was continuing its efforts to make further improvements in the gross ton miles per train hour, believing that a concentration of attention upon that single unit would be more effective than a diffusion of effort on other related units.

1. On the basis of the evidence in this case, what would you consider the essential factors in efficient freight-train operation?

2. Who was responsible for the greater efficiency?

3. Should freight rates have been lowered because of the lower costs of operation?

3. Nickel Plate Unification[1]

denial of application

Report of the Commission

Meyer, Commissioner:

The application in Finance Docket No. 4671 was filed by the New York, Chicago & St. Louis Railway Company, hereinafter termed the new company, a corporation organized under the laws of the State of Ohio for the purpose, among others, of engaging in transportation subject to the Interstate Commerce Act. It seeks authority under paragraph (2') of Section 5[2] of the act to acquire control of the Chesapeake & Ohio Railway Company, the Hocking Valley Railway Company, the Erie Railroad Company, the Pere Marquette Railway Company, and the New York, Chicago & St. Louis Railroad Company, hereinafter referred to, respectively, as the Chesapeake, the Hocking,

[1] Decided by Interstate Commerce Commission, March 2, 1926. 105 I.C.C. 425. Reprinted here in part.

[2] Section 5. (2) "Whenever the Commission is of opinion, after hearing, upon application of any carrier or carriers engaged in the transportation of passengers or property subject to this act, that the acquisition, to the extent indicated by the Commission, by one of such carriers of the control of any other such carrier or carriers either under a lease or by the purchase of stock or in any other

the Erie, the Pere Marquette, and the Nickel Plate, or as the lessor companies. Each of the lessor companies is a carrier by railroad engaged in transportation subject to the act. They join in the application of the new company. The new company also seeks authority under Section 20 (*a*)[1] of the act to issue securities to be used in connection with the proposed acquisitions.

Control by the new company is sought to be acquired (1) under leases for 999 years from the lessor companies of the lines of railway and of other properties, owned by them, respectively, and by assignment from each lessor company of the leases whereby such lessor company now operates existing railways of its system not owned by it, or by sublease thereof from such lessor company, and by the assignment of any and all trackage and operating rights over foreign lines, and (2) by the acquisition of at least a majority of the capital stock of the Chesapeake, the Hocking, the Erie, and the Pere Marquette. It will be noted that it is not proposed to acquire any of the capital stock of the Nickel Plate. The proposed leases from the Nickel Plate, the Chesapeake, the Erie, and the Pere Marquette would run directly to the new company. The proposed lease from the Hocking would run to the Chesapeake and would be assigned to the new company.

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We come now to the principal questions in this proceeding: (1) Are the proposed acquisitions of control in the public interest and (2) are the considerations, terms, and conditions of the proposed acquisitions of control just and reasonable?

The Nickel Plate operates 1,695.3 miles of road, including 22.34 miles of trackage. It extends from Buffalo on the east to Chicago and Peoria, Illinois, and St. Louis, Missouri, on the west, with branches to Toledo and Sandusky, Ohio, and to Michigan City, Indianapolis, Rushville, and Connersville, Indiana. It operates mileage formerly operated by the Toledo, St. Louis & Western, Lake Erie & Western, and New York, Chicago & St. Louis. See *Acquisition and Stock Issue by N. Y. C. & St. L. R. R.*, 79 I.C.C. 581. It has a half interest in the Detroit & Toledo Shore Line, which extends between Detroit, Michigan, and Toledo, Ohio.

The Chesapeake operates 2,649.41 miles of road, including 294.89 miles of trackage rights. It extends from Newport News, Virginia, through Cincinnati, Ohio, to Chicago, with a long branch to Louisville, Kentucky. It has many branches, particularly in the coal fields of

manner not involving the consolidation of such carriers into a single system for ownership and operation, will be in the public interest, the Commission shall have authority by order to approve and authorize such acquisition, under such rules and regulations and for such consideration and on such terms and conditions as shall be found by the Commission to be just and reasonable in the premises."

[1] [Briefly, this section provided that it should be unlawful for a common carrier subject to the law, to issue or assume liability for any securities except upon authorization by the Interstate Commerce Commission. The latter was given substantial power to approve, alter, or reject applications for such authorization.]

Kentucky and West Virginia. Its mileage operated under trackage consists principally of over 85 miles over the Southern and other lines to reach Washington, D. C., 84.4 miles over the Louisville & Nashville to reach Louisville, 19.79 miles over the Chicago & Western Indiana to reach Chicago, and 62 miles over the Norfolk & Western from Valley Crossing to Gregg, forming the connecting link between the Chesapeake and Hocking. It owns over 80% of the capital stock of the Hocking and thereby reaches Toledo.

The Hocking operates 348.5 miles of road, only 6.75 miles of which are operated under trackage. Its main line extends from Toledo through Columbus, Ohio, to Athens and Pomeroy, Ohio, with branches in the coal fields of southern Ohio.

The Erie system, including the Chicago & Erie, embraces 2,571.79 miles of road. This includes 127.79 miles operated under trackage rights, and 133.55 miles of the New York, Susquehanna & Western, 86.09 miles of the Wilkes-Barre & Eastern, 35.83 miles of the New Jersey & New York, and 9.20 miles of the Bath & Hammondsport Railroads. These four companies are controlled by the Erie through ownership of their capital stock, but are not operated by it. This stock will pass to the new company by means of the lease, but in the application it is stated that the new company does not intend to operate the properties of any other company embraced within the system of any lessor company which are not operated by such lessor company, but on the contrary the intention is that for the present all properties so operated shall continue to be operated as they now are. This provision is only applicable to subsidiaries of the Erie and a very important exception is made in the case of the Chicago & Erie, now operated separately, but which nevertheless is to be operated by the new company.

The Erie as thus outlined extends from New York to Chicago, double-tracked most of the way, the main line passing through northern New Jersey, southern New York, northwestern Pennsylvania, northern Ohio, and northern Indiana. A double-tracked line extends from Hornell, New York, on the main line, to Buffalo and other Niagara gateway points. Important branches serve Cleveland and Cincinnati, and it is an important factor in the anthracite and bituminous coal fields of Pennsylvania.

The Pere Marquette operates 2,235.27 miles of road, of which about 337 miles are in Canada. Its main lines extend from Toledo, Detroit, and Port Huron, Michigan, to Chicago and to Ludington, Michigan. It operates car ferries from the latter point across Lake Michigan to Milwaukee, Manitowoc, and Kewaunee, Wisconsin. It also has a half interest in a company which operates a car ferry across Lake Erie between Erieau, Ontario, Port Stanley, Ontario, and Conneaut Harbor, Ohio. Its Canadian mileage extends from Detroit and Port Huron to Erieau and St. Thomas, Ontario. From the latter point it has trackage over the Michigan Central to Niagara frontier gateways. It has an extensive branch-line mileage in the Lower Peninsula of Michigan.

There will thus be included in the system of the new company approximately 9,160 miles of road, including trackage rights, in the United States, and 337 miles in the Dominion of Canada. The main lines of the system will extend from the Atlantic ports of New York and Newport News to connections with the principal western, northwestern, and southwestern railroads at the important gateways of Chicago, Peoria, and St. Louis. It will also reach many other important cities and gateways like Louisville, Cincinnati, Indianapolis, Rochester, Buffalo, Erie, Cleveland, Sandusky, Toledo, Columbus, and Fort Wayne, Indiana, and be strongly represented in the industrial section of Michigan; in the Mahoning and Shenango steel districts of Pennsylvania and Ohio; in the rubber industry in and about Akron; in the anthracite and bituminous coal fields of Pennsylvania; and in the extensive coal fields of southern West Virginia, Kentucky, and Ohio. It will afford an outlet for the coal to tidewater, to the Great Lakes, and to the North and West. It will be in a position to serve with a single-line haul its territory, which includes the great industrial region adjacent to the Great Lakes, to and from the points above named and intermediate points.

The applicants enumerate various advantages to the public through the proposed unification of operations, among which may be mentioned the following: At common terminal points, particularly Chicago and Buffalo, certain of the lessor companies either occupy leased facilities or own facilities not proportionate to their needs. Unification will make possible a fuller utilization of terminals and more rapid, satisfactory, and frequent service. Shop facilities will be used to the maximum capacity, as a result of distribution of work to shops best qualified by capacity and equipment to perform it. There are 36 points of interchange between the lines of the lessor companies, at each of which there is joint interchange, inspection, and record. The delays incident to this inspection and record will be eliminated and movement through most of the points will be continuous. Consolidation of revenue and distribution of costs will make practicable new and additional through routes. The Pere Marquette car ferries across Lake Michigan operate throughout the year and favorable interchange arrangements are in effect with the northwestern lines at Milwaukee, Manitowoc, and Kewaunee. For the first time these routes will be connected by a single system with most of the important cities in central and trunk-line territories. It is anticipated that this ferry route can be greatly developed with consequent economy in operation as contrasted with all-rail movement, particularly through Chicago.

Movement of coal from mines on the Chesapeake and the Hocking can be better controlled and expedited, particularly with respect to the return of empties, an important factor in coal movements. In central territory the Nickel Plate, Erie, and Pere Marquette are the only important carriers which have substantially no bituminous coal production on their lines. The Erie has some on its lines in Pennsyl-

vania. On the other hand, the Chesapeake and Hocking are primarily coal carriers and the unification of all five will result in the new company's resting on a broader traffic base. The tendency of this will be to increase the financial stability of the entire system, which in turn will tend to insure a higher quality of service. The New York Central, Pennsylvania, and Baltimore & Ohio systems, the principal competitors of the new company in central territory, serve large coal areas. Unified operation will result in a better distribution of iron and steel products, automobiles, and various other manufactured products produced on the lines of the lessor companies, as they can be handled by a one-line haul throughout an extensive territory. Strengthening of the traffic relations of the Chesapeake will be beneficial to the port of Hampton Roads.

One of the most important factors in the unified system will be the movement of traffic over the most economical routes, having regard to density of traffic, congestion at terminals, and grades. Obvious examples which applicants say are certain to be adopted are as follows:

From North Judson to Griffith, Indiana, about 41 miles, the lines of the Erie and Chesapeake are practically parallel. The Chesapeake's ruling grades are 1%; the Erie's 0.2% westbound and 0.3% eastbound. The Chesapeake's through trains will be diverted to the Erie line.

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Between Lima, Ohio, and Hornell, New York, the Erie's line is 30 miles longer than the route from Lima over the Nickel Plate to Buffalo, thence over the Erie. The traffic of the Erie between Marion and Meadville, Pennsylvania, is at times so great as to interfere with the movement of its large volume of perishable traffic. In addition, over one operating division its ruling grades are 1.07% eastbound and 1.09% westbound, whereas the Nickel Plate between Lima and Buffalo loads its trains on a 0.5% grade basis. It is estimated that, by diverting perishable and other fast freight, savings amounting to about $500,000 will result.

Altogether it is estimated that the proposed unified operation would result in annual savings of more than $6,000,000. Many, if not all, of the savings are not dependent upon unification in the exact manner proposed here but could be brought about if control were only by stock ownership, or in many cases by intercompany contracts providing for the use of such joint facilities as it is proposed the unified system will establish. But that is not to say that the things mentioned cannot more certainly and easily be brought about when the lines are under one management and control.

Without unification it is said that the Chesapeake would have to spend over $23,000,000 in revising its Chicago division, and the Erie nearly $32,000,000 in revising its lines between Marion and Meadville and between Kennedy and Steamburg, New York, a total of about $55,000,000. As against this capital expenditure it will be necessary in the near future, in order to provide for the increased traffic, to com-

plete the double tracking of the Nickel Plate's line between Lima and Brocton, New York, at a cost of over $8,000,000.

Reference is made to the fact that the Erie, Chesapeake, Pere Marquette, and Nickel Plate compete to some extent with each other. Thus the Chesapeake and Erie are in competition for traffic through Atlantic ports to Chicago and the West. The Nickel Plate and Erie are in competition between Chicago and Buffalo, and, through the Nickel Plate's connections, the competition extends to New York. So, too, is the Pere Marquette somewhat of a factor in the situation. But we believe that it is unquestionable that chief and by far the strongest competitors for traffic between Chicago and the West, on the one hand, and New York and the Atlantic seaboard, on the other, are the New York Central, Pennsylvania, and Baltimore & Ohio systems. These systems have grown to their present size and strength by a gradual process of accretion. The system proposed would create a fourth powerful competitor of the three systems named, which have long been strongly entrenched in the territory. There has been no serious suggestion that they be disrupted. One of the fundamental objects of the Transportation Act, 1920, of which paragraphs (2) to (8) of Section 5[1] are an important part, is to maintain an adequate railway service for the people of the United States.

[1] Section 5. (4) "The Commission shall as soon as practicable prepare and adopt a plan for the consolidation of the railway properties of the continental United States into a limited number of systems. In the division of such railways into such systems under such plan, competition shall be preserved as fully as possible, and wherever practicable the existing routes and channels of trade and commerce shall be maintained. Subject to the foregoing requirements, the several systems shall be so arranged that the cost of transportation as between competitive systems and as related to the values of the properties through which the service is rendered shall be the same, so far as practicable, so that these systems can employ uniform rates in the movement of competitive traffic and under efficient management earn substantially the same rate of return upon the value of their respective railway properties.

(5) "When the Commission has agreed upon a tentative plan, it shall give the same due publicity and upon reasonable notice, including notice to the Governor of each State, shall hear all persons who may file or present objections thereto. . . . The consolidations herein provided for shall be in harmony with such plan.

(6) "It shall be lawful for two or more carriers by railroad, subject to this act, to consolidate their properties or any part thereof, into one corporation for the ownership, management, and operation of the properties theretofore in separate ownership, management, and operation, under the following conditions:

(*a*) "The proposed consolidation must be in harmony with and in furtherance of the complete plan of consolidation mentioned in paragraph (5) and must be approved by the Commission.

. . . . . .

(8) "The carriers affected by any order made under the foregoing provisions of this section and any corporation organized to effect a consolidation approved and authorized in such order shall be, and they are hereby, relieved from the operation of the 'antitrust laws,' as designated in Section 1 of the act entitled 'An Act to supplement laws against unlawful restraints and monopolies, and for other purposes,' approved October 15, 1914, and of all other restraints or prohibitions by law, state or Federal, in so far as may be necessary to enable them to do anything authorized or required by any order made under and pursuant to the foregoing provisions of this section."

In compliance with the mandate of paragraph (4) of Section 5 of the act, on August 3, 1921, we promulgated a tentative plan for the consolidation of the railway properties of the United States into a limited number of systems. This tentative plan provided for either nine or eight systems in the eastern region, according as the New England lines were or were not grouped in a separate system. The principal carriers in those systems were as follows:

1. New York Central and its subsidiaries, except the Lake Erie & Western, Ohio Central lines, and Indiana Harbor Belt; Western Maryland; Rutland; and, alternatively, Boston & Maine, Maine Central, and Bangor & Aroostook.

2. Pennsylvania and its subsidiaries, but specifically excluding Norfolk & Western.

3. Baltimore & Ohio; Reading; Jersey Central; Chicago, Indianapolis & Louisville; and, alternatively, New Haven.

4. Erie; Delaware & Hudson; Lackawanna; Bessemer & Lake Erie; and Wabash east of Mississippi River.

5. Nickel Plate and properties since consolidated into present Nickel Plate; Lehigh Valley; Wheeling & Lake Erie; and Bessemer & Lake Erie, alternatively with system No. 4.

6. Pere Marquette; Ann Arbor; and Detroit, Toledo & Ironton.

7. New Haven; New York, Ontario & Western; Boston & Maine; Maine Central; and Bangor & Aroostook.

8. Chesapeake & Ohio; Hocking Valley; and Virginian.

9. Norfolk & Western and Ohio Central lines.

It will be noted that the carriers covered by the present application were placed in four separate systems. Since that time several changes have taken place in the corporate relationship of several of the carriers in the eastern group, with the approval of the commission where necessary, to wit, the New York Central has acquired further control of the Cleveland, Cincinnati, Chicago & St. Louis Railway Company, and has made the Ohio Central lines an integral part of its system by means of what practically amount to perpetual leases. The Pennsylvania has leased for 999 years several of its most important subsidiaries, and has consolidated others under state laws. The stock of the Central Railroad of New Jersey formerly held by the Reading Company has been placed in the hands of trustees appointed by the District Court for the Eastern District of Pennsylvania, following the decision of the United States Supreme Court in *United States* v. *Reading Co.*, 253 U. S. 26. The final disposition of this stock has been deferred pending consolidation proceedings, but by the terms of the decree the court may at any time enter an order for the sales of the stock. The New York, Chicago & St. Louis, Lake Erie & Western, and Toledo, St. Louis & Western have been consolidated and now comprise the present Nickel Plate, one of the applicants, which, as before stated, has a

one-half interest in the Detroit & Toledo Shore Line. The Wabash has acquired control of the Ann Arbor. Nearly all of the above transactions were passed upon by us. Most of them were applications under paragraph (2) of Section 5, the one under which the present application was filed, or were applications under Section 20(*a*) to effectuate some previous action taken under the state laws.

In addition, the Norfolk & Western is now before us seeking authority to acquire control of the Virginian and we are advised that the Delaware & Hudson proposes to lease the Buffalo, Rochester & Pittsburgh, of course subject to our approval. In many of the instances where we approved acquisition of control, such groupings were contrary to the tentative plan. We have never considered that plan as an inflexible guide to our actions under these provisions of the statute. On the contrary, although consolidations must be in conformity with our complete plan when promulgated, it is evident that it was not the intent of Congress that even the complete plan should be considered as an inflexible guide, as we are empowered at any time after its promulgation, upon our own motion or upon application, to reopen the subject for such changes or modifications as in our judgment will promote the public interest. As we stated at that time, the tentative plan was put forward in order to elicit a full record upon which the plan to be ultimately adopted can rest, and without prejudgment of any matters which may be presented upon that record. Furthermore, we are here dealing with acquisitions, not consolidations, although the latter are the ultimate end sought.

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As before stated, the different parts of the New York Central and Pennsylvania systems have been brought more closely together by various means with our approval. In the case of the Ohio Central lines the tentative plan proposed them as an outlet to the lakes for the Norfolk & Western. It now has such an outlet, as well as a wide western outlet, in connection with the Pennsylvania. It is true that in approving applications under paragraph (2) of Section 5 we have generally said that such approval was not to be considered as indicating our conclusion in the matter of consolidation. But on the other hand, for the purposes of dealing with this application, we must consider the New York Central and Pennsylvania as they stand, together with the further fact that the latter still has a large interest in Norfolk & Western.

As we have heretofore pointed out, the competition which the proposed system must meet will be furnished by the Pennsylvania, New York Central, and Baltimore & Ohio systems. Applicants contend that their proposal will result in better balanced competition than is possible by the separate components of the system. They make various comparisons of population, traffic, and operating results of the proposed system with the three systems named.

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No important city will be deprived of railroad competition by the proposed unification and, while traffic will be routed so as to avoid congested terminals and otherwise improve and expedite service and reduce operating costs, there is no indication that any existing route will be closed. On the contrary, from stipulations of record affecting weaker connections, a much different spirit has been manifested.

The proposed system will serve the Great Lakes and the central-eastern and Pocahontas districts. To show that the proposed acquisitions of control tend to the realization of one of the prime objects of the provisions of Section 5, namely, an arrangement of systems so that—

> the cost of transportation as between competitive systems and as related to the values of the properties through which the service is rendered shall be the same, so far as practicable, so that these systems can employ uniform rates in the movement of competitive traffic and under efficient management earn substantially the same rate of return upon the value of their respective railway properties,

the applicants make the following comparisons (Exhibits 1 and 2) as between the proposed system and its three principal competitors and all roads in the three districts named.

EXHIBIT 1

PERCENTAGE CLASSIFICATION OF TONNAGE AND REVENUES PER TON MILE, 1924

Classification	Proposed System	N. Y. C., Pa., and B. & O.	All Roads in Great Lakes, Central, Eastern, and Pocahontas Districts
Products of—			
Agriculture	7.58%	4.75%	5.81%
Animals	1.85	1.38	1.46
Mines	64.07	59.76	61.35
Forests	4.76	5.06	4.52
Manufactures and l. c. l.	21.74	29.09	26.86
Revenue per ton mile ....(mills)	(8.40)	(10.58)	(10.19)

The following comparison (Exhibit 3, on page 580) is limited to the four systems named and shows results for 1924, the investment in road and equipment being as of December 31, 1924.

It seems clear that the proposed unification is a step along the right lines in carrying out the policy of Congress, as expressed in Section 5 of the act, of encouraging the formation of a limited number of systems, which, as it affects the eastern territory, outside of New England, and considering the railway situation in that district today, dominated as it is by three long-established systems, would result in nearly all of the principal producing and consuming centers of the territory being served by two or more and in many instances by all of the limited number

EXHIBIT 2

ANALYSIS OF COSTS OF OPERATION, 1924, BY PERCENTAGES OF RAILWAY OPERATING REVENUE

Item	Proposed System	N. Y. C., Pa., and B. & O.	All Roads in Great Lakes, Central, Eastern, and Pocahontas Districts
Maintenance of—			
Way and structures	12.8%	12.0%	12.3%
Equipment	24.5	22.6	22.8
Total maintenance	37.3	34.6	35.1
Traffic	1.6	1.4	1.4
Transportation	35.2	37.7	37.2
Miscellaneous and general	3.2	3.9	3.5
Total operating and maintenance	77.3	77.6	77.2
Net operating revenue	22.7	22.4	22.8
Taxes and uncollectible railway revenue	4.5	5.1	5.2
Railway operating income	18.2	17.3	17.6
Facility and equipment rentals	.8	1.6	1.5
Net railway operating income	17.4	15.7	16.1

of systems. Each system would ramify throughout the territory. Each would have adequate access to sources of fuel supply as well as participation to a large extent in the commercial distribution of coal. Each would serve at least two of the five north Atlantic ports and have adequate access to lower lake ports. Mileage, property investment, gross earnings, and net railway operating income would be more nearly equalized than is possible in the case of the present number of systems, or even the number proposed in the tentative plan. The systems would more nearly approach an equality of opportunity to serve the public throughout the territory, to provide adequate facilities, and to make necessary extensions from time to time with reasonable expectation of securing additional traffic. A greater amount of actual and effective competition in service may be assured by a limited number of well-articulated systems than by a greater number of systems less complete.

Other meritorious groupings of these carriers might be proposed,

EXHIBIT 3

COMPARISON OF RESULTS, FOR 1924, OF PROPOSED SYSTEM, NEW YORK CENTRAL, PENNSYLVANIA, AND BALTIMORE & OHIO SYSTEMS

Name	Miles of Line Operated	Investment in Road and Equipment	Operating Revenues	Net Railway Operating Income	Proportion of Income Return upon Book Investment
Proposed System	9,213	$1,228,863,070	$340,364,052	$ 59,273,642	4.823%
New York Central	12,093	1,878,762,969	588,171,010	107,988,738	5.748
Pennsylvania	11,379	2,246,661,561	693,718,881	84,127,203	3.745
Baltimore & Ohio	5,316	795,447,338	227,084,805	37,773,163	4.749

but viewing the grouping presented in this application strictly from a transportation standpoint, we find that the proposed acquisitions of control are in the public interest.

We have now to consider the question: Are the considerations, terms, and conditions of the proposed acquisitions of control just and reasonable?

. . . . . .

We cannot escape the conclusion that the plan was arranged with the intention of keeping control in the hands of its proponents even though their interest is a minority one in fact. Such an arrangement is not in accord with sound railroad practice. The Nickel Plate is the only railroad of importance in the country in which preferred stockholders do not have the right to vote, and now it is proposed to extend this feature to over $155,000,000 of new stock of a company comparable with the New York Central, Pennsylvania, and Baltimore & Ohio. The common stock of the new company will not greatly exceed $174,000,000, out of a total capitalization of over $950,000,000. We believe it to be self-evident that the public interest requires that the entire body of stockholders of a railroad which is bonded in excess of one-half of its investment, and not a powerful few, shall be responsible for its management. This can be done only by giving them the power to control the management. The lethargy of ordinary stockholders in exercising their power to control the management of these large corporations has often been commented on, but nevertheless the power should be in their hands to use as they see fit. It is inimical to the public interest to strip stockholders of their voting power, thus rendering it so much easier to control a great transportation system by a comparatively limited amount of investment.

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We, therefore, find that the considerations, terms, and conditions of the proposed acquisitions of control are not just and reasonable. Aside from the transportation aspect, the proposed acquisitions of control upon the considerations, terms, and conditions proposed have not been shown to be in the public interest. The application must be denied. This action necessitates similar disposition of the application for authority to issue securities.

1. Prior to 1920 it had been the general policy of Congress to prevent, through the Interstate Commerce Commission, the consolidation or unification of railroad systems as being incompatible with the anti-trust laws. Provided that a suitable financial plan for completing the Nickel Plate unification should be offered, should the proposed unification be permitted?

2. In the matter of railroad combinations, is the provision for prior approval by the Interstate Commerce Commission a method of control preferable to that of action such as may be taken

against private companies through the courts or by the Federal Trade Commission after combinations have taken effect?

4. Cement, Tolenas & Tidewater Railroad Company[1]

value for rate-making purposes

Report of the Commission

Division 1. Commissioners Meyer, Aitchison, and Lewis by Division 1:

A tentative valuation, as of June 30, 1916, of the property of the Cement, Tolenas & Tidewater Railroad Company, hereinafter called the carrier, was completed and notice thereof was duly served upon the carrier and other interested parties on June 21, 1922. The carrier filed a protest within the statutory period. A hearing has been had on the issues presented by the protest.

On the date of valuation the carrier owned and operated a line of railroad from Tolenas to Cement, California, a distance of 1.637 miles. The carrier also owned yard and side tracks aggregating 3.705 miles. A detailed description of the property is set out in the order herein.

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final value[2]

On date of valuation the carrier's investment in road and equipment as evidenced by its records was $260,121.57, of which $250,000 represented capital stock issued at par for the property acquired from the Pacific Portland Cement Company, and $10,121.57 recorded money outlay for additions and betterments. The original cost to date cannot be ascertained. The cost of reproduction new exclusive of land is found to be $127,472, and the cost of reproduction less depreciation $97,390. We find the present value of lands to be $1,569.50.

The carrier is controlled by the Pacific Portland Cement Company through ownership of a majority of its outstanding capital stock. For

[1] Valuation Docket No. 257. 108 I.C.C. 555. Decided March 12, 1926. Reprinted here in part.

[2] [In 1913 an amendment of the act to regulate commerce authorized the Interstate Commerce Commission to determine, for purposes of the act, the value of the several classes of property of common carriers subject to the act. The Commission subsequently commenced the valuation of such properties, publishing the values finally arrived at in compliance with the requirements of the law. In addition to finding the value as of the date of valuation, the Commission was directed to show the cost of reproduction new of the property, and that cost less depreciation, as of the date of valuation. By October 31, 1926, the Commission had reported valuations for 1,328 corporations, involving 160,486 miles of road, or 65.67% of the total mileage to be surveyed. See *Fortieth Annual Report of the Interstate Commerce Commission,* December 1, 1926, p. 13.]

the year ending on the date of valuation the net income derived from the use of the carrier property was $10,616.81.[1]

We find that the value for rate-making purposes of the property owned and used for purposes of a common carrier, including $8,002 for working capital, is $112,002.

The estimates of cost of reproduction covered by this report are

[1] In affirming the constitutionality of the so-called "recapture" sections of the Transportation Act of 1920, the Supreme Court of the United States, in *Dayton-Goose Creek Railway Company* v. *United States,* 263 U. S. 456, (January 7, 1924) said in part:

> By Section 422 of the Transportation Act, there was added to the existing Interstate Commerce Act, and its amendments, Section 15(*a*). The section in its second paragraph directs the Commission to establish rates which will enable the carriers, as a whole or by rate groups or territories fixed by the Commission, to receive a fair net operating return upon the property they hold in the aggregate for use in transportation. By paragraph 3 the Commission is to establish from time to time and make public, the percentage of the value of the aggregate property it regards as a fair operating return, but for 1920 and 1921 such a fair return is to be 5½%, with discretion in the Commission to add one-half of 1% as a fund for adding betterments on capital account. By paragraph 4 the Commission is to fix the aggregate value of the property from time to time, using in doing so the results of its valuation of the railways as provided in Section 19(*a*) of the Interstate Commerce Act so far as they are available and all the elements of value recognized by the law of the land for rate-making purposes, including, so far as the Commission may deem it proper, the investment account of the railways.
>
> Paragraph 5 declares that because it is impossible to establish uniform rates upon competitive traffic which will adequately sustain all the carriers needed to do the business, without giving some of them a net income in excess of a fair return, any carrier receiving such excess shall hold it in the manner thereafter prescribed as trustee for the United States. Paragraph 6 distributes the excess, one-half to a reserve fund to be maintained by the carrier, and the other half to a general railroad revolving fund to be maintained by the Commission. Paragraph 7 specifies the only uses to which the carrier may apply its reserve fund. They are the payment of interest on bonds and other securities, to the extent that its operating income for the year is less than 6%. When the reserve fund equals 5% of the value of the railroad property, and as long as it continues to do so, the carrier's one-half of the excess income may be used by it for any lawful purpose. Under paragraph 10, and subsequent paragraphs, the general railroad revolving fund is to be administered by the Commission in making loans to carriers to meet expenditures on capital account, to refund maturing securities originally issued on capital account, and for buying equipment and facilities and leasing or selling them to carriers. . . .
>
> The new act seeks affirmatively to build up a system of railways prepared to handle promptly all the interstate traffic of the country. It aims to give the owners of the railways an opportunity to earn enough to maintain their properties and equipment in such a state of efficiency that they can carry well this burden. To achieve this great purpose, it puts the railroad systems of the country more completely than ever under the fostering guardianship and control of the Commission which is to supervise their issue of securities, their car supply and distribution, their joint use of terminals, their construction of new lines, their abandonment of old lines, and by a proper division of joint rates, and by fixing adequate rates for interstate commerce, and in case of discrimination, for intrastate commerce, to secure a fair return upon the properties of the carriers engaged.
>
> It . . . is insisted here, that the power to regulate interstate commerce

based upon the 1914 level of prices, while the present values of the common-carrier lands covered by the report are based upon the fair average of the normal market value of lands adjoining and adjacent to the rights of way, yards, and terminals of the carrier, as of valuation date. This discrepancy will be removed when we adjust to later dates, in accordance with the requirements of the Valuation Act, the final value herein reported.

An order will be entered in accordance with our findings.

ORDER

Entered March 12, 1926

. . . . . .

The income account of the carrier for the year ended with date of

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is limited to the fixing of reasonable rates and the prevention of those which are discriminatory, and that when these objects are attained, the power of regulation is exhausted. This is too narrow a view of the commerce clause. To regulate in the sense intended is to foster, protect, and control the commerce with appropriate regard to the welfare of those who are immediately concerned, as well as the public at large, and to promote its growth and insure its safety. . . .

. . . . . .

Title IV of the Transportation Act, embracing sections 418 and 422, is carefully framed to achieve its expressly declared objects. Uniform rates enjoined for all shippers will tend to divide the business in proper proportion so that when the burden is great, the railroad of each carrier will be used to its capacity. If the weaker roads were permitted to charge higher rates than their competitors, the business would seek the stronger roads with the lower rates, and congestion would follow. The directions given to the Commission in fixing uniform rates will tend to put them on a scale enabling a railroad of average efficiency among all the carriers of the section to earn the prescribed maximum return. Those who earn more must hold the excess primarily to preserve their sound economic condition and avoid wasteful expenditures and unwise dividends. Those who earn less are to be given help by credit secured through a fund made up of the other half of the excess. By the recapture clauses Congress is enabled to maintain uniform rates for all shippers and yet keep the net returns of railways, whether strong or weak, to the varying percentages which are fair respectively to them. The recapture clauses are thus the key provision of the whole plan.

In regard to railroad income and investment, the Commission has said:

The growth in net railway operating income is accompanied by, and in part dependent on, a growth in the investment. For 1920 the investment accounts show an average per mile of $81,954, as contrasted with $95,283 in 1925, the totals being $19,849,000,000 for December 31, 1920, and $22,709,000,000 for December 31, 1925, an increase of $2,860,000,000 in five years, or an annual average increase of $572,000,000. This is the net difference of the additions and retirements shown in the property accounts, without deduction for accrued depreciation. These totals relate to all operating roads, except switching and terminal companies, with the inclusion of the property of leased lines. An addition of $572,000,000 to the net investment means an increase of $32,890,000 annually in the interest or dividend charges, assuming that money invested out of net revenues is to earn the same return as new money invested in the property. We are without an authoritative fair property value with which to compare the net railway operating income. Upon the book value the return in 1925 was approximately 5%. *Fortieth Annual Report of the Interstate Commerce Commission,* December 1, 1926, p. 2.]

valuation and the period from January 1, 1912, to date of valuation is recorded by it as follows:

	Year	Period
Operating income:		
Railway operating revenues	$63,065.40	$302,107.62
Railway operating expenses	51,958.47	223,136.51
Net revenues from railway operations	$11,106.93	$ 78,971.11
Railway tax accruals	3,667.65	15,748.25
Total operating income	$ 7,439.28	$ 63,222.86
Nonoperating income:		
Hire of equipment	$ 2,979.55	$ 7,792.30
Income from unfunded securities and accounts	207.98	321.92
Total nonoperating income	$ 3,187.53	$ 8,114.22
Gross income	$10,626.81	$ 71,337.08
Deductions from gross income:		
Hire of equipment		$ 119.69
Miscellaneous rents	$ 10.00	10.00
Total reduction from net income	$ 10.00	$ 129.69
Net income	$10,616.81	$ 71,207.39
Disposition of net income, balance to credit of profit and loss	$10,616.81	$ 71,207.39

. . . . . .

Dividends aggregating $37,120 have been declared by the carrier and were paid at the rate of 3% for the six months ended with June 30, 1912; 6% for the year ended June 30, 1913; and 5.5% for the year ended June 30, 1914.

. . . . . .

Investment in road and equipment. The investment in road and equipment, including land, on date of valuation, is stated in the books of the carrier to be $260,121.57, of which $250,000 represents capital stock issued at par for the property acquired from the Pacific Portland Cement Company and $10,121.57 recorded money outlay for additions and betterments. The above may include some or all the undeterminable costs of noncarrier lands owned by the carrier, the carrier having maintained no separate miscellaneous physical property account.

Original cost to date. The original cost to date of the property owned by the carrier and used for common-carrier purposes on date of valuation cannot be ascertained, due to the destruction by fire of the records of the Pacific Portland Cement Company which built and equipped the property. Available data on the outlay by the carrier for improving the property purchased are those found in the carrier's road

and equipment investment account and comprise $10,121.57 of recorded money outlay.

. . . . . .

Cost of reproduction new and cost of reproduction less depreciation. The cost of reproduction new and cost of reproduction less depreciation of all common-carrier property wholly owned and used by the carrier, other than land, are $127,472 and $97,390, respectively.

Final value. After careful consideration of all the facts herein contained, including appreciation, depreciation, going-concern value, working capital, and all other matters which appear to have a bearing upon the value here reported, the value, for rate-making purposes, of the property of the carrier wholly owned and used for common-carrier purposes, is found to be $112,002. There is included in the value above stated the sum of $8,002 on account of working capital, consisting wholly of cash on hand.

1. If in 1921, when the "fair return" upon a carrier's property was declared to be 6%, this railroad had a net income of $10,070, what disposition should the Interstate Commerce Commission have directed to be made of that income?

2. What economic activities in the United States will be affected, and in what way, by the finding of a "fair valuation" for railroad properties?

3. How does the higher level of prices, (see, for example, Exhibit 1 at page 198) as compared with prewar years, affect cost of reproduction? Should it be the basis of a higher valuation?

XXXVI

GOVERNMENT OWNERSHIP

Clay, 120-136, 360-365; Ely, 649-653; Fairchild, I, 185-209, II, 469-480; Gide, 204-215, 549-551; Rufener, 305-309; Seager, 442-467; Seligman, 612-631; Taussig, II, 419-440.

1. Detroit, Michigan

MUNICIPAL OWNERSHIP *vs.* SERVICE AT COST

Prior to 1920 the Detroit United Railway owned and operated the street railway in Detroit, Michigan. This company operated also a suburban system which furnished service in four neighboring cities and in the suburbs of Detroit. The system within the city of Detroit was the consolidation of several companies. The Detroit United Railway was a subsidiary company of the Detroit United Lines, which controlled electric interurban lines to Chicago, Toledo, and several cities in Michigan and Ontario. The subsidiaries, from a physical standpoint, operated in connection with the Detroit city system, since their cars entered the city to reach a central interurban station. The Detroit United Railway acted as central purchasing agent for the subsidiary companies, and the subsidiary companies used the repair shops of the Detroit United Railway. The voters of the city, in 1919, had defeated a proposition for purchase by the city of the street-railway system in Detroit. In 1921 the mayor submitted to the voters a proposition that the city build and operate a street railway in addition to the privately owned system. At the same election the Detroit United Railway submitted, by an initiatory petition, a proposition providing for the service-at-cost plan of operation of the company's street railway.

The first agitation for ownership of the street-railway system in Detroit had started about 25 years prior to 1920. From 1899 to 1908 there was a constant political struggle to have the state constitution changed to permit municipal ownership and operation of local transportation facilities. In 1908 the state adopted

a new constitution which allowed municipal ownership of public utilities. The constitution provided that municipal ownership projects could be authorized by the voters of a municipality only by a favorable vote of 60% of those voting. During the years of political struggle to make municipal ownership legal, several franchises on street-railway lines operated by the Detroit United Railway expired. The state constitution provided that the city could grant new franchises or renew old franchises only upon the approval of the voters, and approval required that 60% of the votes cast be affirmative.

In 1906 the mayor had submitted to the voters a proposition for the extension of certain of the company's franchises to December, 1924, in return for which the company was to sell tickets at the rate of 6 for 25 cents for use during all hours and 10 for 25 cents for use between 5 a.m. and 8 a.m. and 4:30 p.m. to 6:30 p.m. The cash fare was to continue at 5 cents. This proposition received only a 31% affirmative vote. The voters defeated two other franchise propositions between 1906 and 1913. The opposition to the propositions was the result chiefly of political propaganda and the prevailing public opinion that the monopolistic control of Detroit street-railway facilities by a large private corporation should end. In 1913 the mayor submitted an amendment to the city charter providing in the abstract for municipal ownership and operation of street-railway lines, and the voters of the city adopted the amendment by a vote of 40,531 in favor and 9,542 opposed.

Growth of the city in area and population caused much agitation for increased transportation facilities and extension of facilities. The Detroit United Railway, which had been unable to secure any extension of franchises, agreed, in 1913, to build certain extensions under a day-to-day agreement with the city which provided that the city council might order the company to cease operations on those streets at any time and that the city might purchase the track at cost, less depreciation, at any time. In return the company agreed to sell 7 tickets for 25 cents.

In 1913 the Detroit United Railway operated its lines as two groups, referred to as the "5-cent lines" and the "3-cent lines." The cash fare was 5 cents on all lines. On the 5-cent lines workingmen's tickets which sold at 8 for 25 cents were accepted during rush hours in the morning and evening. On the 3-cent lines

tickets which sold at 6 for 25 cents were accepted between 7:30 p.m. and 5:15 a.m., and tickets which sold at 8 for 25 cents were accepted during all other hours of the day. The day-to-day agreement of 1913 did not abolish any of the existing rates of fare, but provided that the company should sell tickets at the rate of 7 tickets for 25 cents and would accept these tickets on all lines and at all hours. On December 2, 1917, the company abolished the provision for 7 tickets for 25 cents and continued its previous arrangement of fares. In 1918 the 5-cent lines carried 77% of the total city passengers, including transfer passengers, while the 3-cent lines carried 23% of the total passengers. Exhibit 1 shows the classification of fares of the Detroit United Railway from 1912 to 1918.

EXHIBIT 1

AVERAGE REVENUE PER REVENUE PASSENGER AND CLASSIFICATION OF FARES OF DETROIT UNITED RAILWAY, 1912-1918

Year	Average Revenue per Revenue Passenger, in Cents	5-Cent Cash Fares, in Percentage of Total Fares	Number of Tickets at 8 for 25 Cents, in Percentage of Total Fares	Number of Tickets at 7 for 25 Cents, in Percentage of Total Fares	Number of Tickets at 6 for 25 Cents, in Percentage of Total Fares
1912	4.37	65.57	32.96	.....	1.47
1913*	4.08	45.05	26.88	28.07	....
1914	3.62	8.08	14.32	77.60	....
1915	3.62	7.01	11.60	81.39	....
1916	3.63	6.76	8.68	84.56	....
1917†	3.68	10.74	7.90	81.36	....
1918	4.55	75.67	22.70	.61	1.02

*In August, 1913, the company agreed to sell 7 tickets for 25 cents.
†In December, 1917, the agreement was abrogated by the company.

In November, 1915, the mayor and board of street-railway commissioners (three prominent business men appointed by the mayor) had submitted to the voters a municipal ownership agreement which provided that the city purchase all the street railway lines within the city at a price to be determined by the six circuit judges of the city. The proposition was defeated at the polls by a vote of 32,514 in favor and 35,676 opposed. The principal reason for defeating the proposed purchase plan had been the fact that no definite price had been agreed upon and voters had no idea of how much the system would cost the city. In 1917 the Detroit United Railway abrogated the day-to-day agreement on the ground that the company was unable to continue building

extensions and to meet operating costs at the rate of fare provided in that agreement.

The mayor elected in 1918 had pledged himself during his campaign to secure municipal ownership. He planned to take immediate steps to carry out the following provisions of the new city charter adopted in 1918:

> The city shall at once proceed to—and as soon as practicable acquire or construct and own—maintain and operate a street-railway system beneath, upon, and above the surface of the streets of the city and within a distance of 10 miles from any portion of its limits that the public convenience may require; and as soon as practicable said system shall be made exclusive. Nothing herein contained shall be construed to prevent the city from making a grant to private parties in relation to said street-car system beneath, upon, and above said streets.
>
> Said board may purchase or lease, or by appropriate proceedings prescribed by law and in the name of the city condemn all or any part of the existing street-railway property of the city. . . .
>
> Any contract to purchase or lease herein contemplated, or any plan to condemn the existing street-railway property shall be void unless approved by three-fifths of the electors voting thereon at any regular or special election. . . . .[1]

In order to carry out the provisions of the charter, the mayor and board of street-railway commissioners made an agreement with the Detroit United Railway providing that the city might purchase the railway system at a price of $31,500,000. The city was to pay $15,000,000 on July 1, 1919, and the remainder December 31, 1931, with interest at 6%. The mayor and commissioners proposed a bond issue of $24,000,000 for the initial payment and for needed improvements. The Detroit United Railway was to have interurban entrance in the city by paying the cost of transferring cars over city lines plus 30% of that cost. This proposition was submitted to the voters in April, 1919, and was defeated by a vote of 63,833 in favor and 70,271 opposed. The issue in 1919 had been made a political issue and had been opposed strongly by the leaders of political parties which were not in power. The propaganda in opposition to the purchase had asserted that the price was too high, that the city would be unable to operate the system as economically as could a large private corporation, that politics would be dominant in the control and operation of the system, and that the electric

[1] Charter of the City of Detroit, 1918, Title IV, Chapter XIII, Sections 1, 7, and 8.

equipment of the company soon would become obsolete if Henry Ford perfected a gasoline trolleyless car that he had designed to run on street-railway tracks. Voters were anxious lest, under city ownership of the street-railway system, any deficits that occurred in the operation of the system would become a burden to the taxpayers rather than to the street-car riders.

After the defeat of the purchase plan in 1919, the board of street-railway commissioners spent almost a year studying the street-railway situation. It was evident to them that the voters of the city were opposed to giving the Detroit United Railway a franchise, and that while citizens voted for municipal ownership in the abstract, they were hesitant in assuming the responsibilities of any concrete proposition for municipal ownership. The commissioners believed that public opinion in favor of municipal ownership was decreasing. The board gave tentative consideration to suggestions relating to the street-railway situation and plans the city should adopt for the development of a rapid transit system. For several years prior to 1919 there had been much agitation in favor of providing the city with rapid transit facilities such as subways and elevated lines. The board recognized the fact that transportation facilities in the city were inadequate and the physical properties of the street-railway system were in poor condition. The board considered the following plans:

1. Construction by the city of a competing street-railway system on a piecemeal basis.

2. Condemnation proceedings by the city for acquiring the existing street-railway system.

3. Granting of a franchise to the street-railway company providing for the construction of a definite mileage of extensions each year with a fare that would allow the company to operate without a loss.

4. Adoption by the city of a plan of supplying service at cost whereby the street-railway company would retain ownership of the railway, a return of 6% on its investments would be guaranteed the company by the city, and fares would be adjustable to provide that return.

5. Inauguration by the city of municipal bus lines on all the main avenues of the city.

6. Construction by the city of extensions to be leased to the Detroit United Railway.

7. Further negotiations with the Detroit United Railway for a purchase agreement favorable to the city.

8. Construction by the city of subway and elevated rapid transit

lines which would relieve congestion on the surface lines and leasing of the city rapid transit lines to the Detroit United Railway.

9. Construction by the city of street-car lines and the adoption of the Ford gasoline trolleyless cars.

10. Construction and operation by the city of a complete rapid transit system of subways and elevated lines which would relieve congestion on the surface lines.

The commission, during the campaign which it conducted to secure supporters for the purchase agreement submitted early in 1919, frequently had pointed out the disadvantages of construction by the city of a competing street-railway system and the disadvantages of taking over the existing railway system by condemnation proceedings. The commission was of the opinion that the cost of the system to the city would be high and that competing lines in the city would have no economic justification and would cause expensive litigation. It had been the experience of the city in previous litigation with the street-railway company that many of the most talented members of the city's law staff were hired by the railway. The commission doubted that, in view of the defeat of previous franchise propositions, any new franchise proposition would receive the required number of votes to effect its approval. The commission opposed construction of a rapid transit system unless the system could be operated in connection with the surface lines, yet doubted whether the voters of the city would approve any proposition involving the expenditure of the large sums necessary for construction of rapid transit lines, especially if the proposition included any provision for operation or control by the Detroit United Railway. By 1919, bus lines had been operated in New York and Chicago for so short a time that experience in those cities was insufficient to demonstrate the advisability of operating such lines. In both those cities there was a 10-cent fare on busses. The gasoline trolleyless car had received wide publicity in Detroit, and opponents of the operation of the street railway by the Detroit United Railway urged the city to build its own car lines and equip them with the new gasoline car. The commission, however, did not wish to recommend a large investment in a type of equipment which had not yet been proved feasible.

The board of street-railway commissioners and the city council visited Cleveland and investigated personally the working of the

service-at-cost plan in that city. The plan had been in operation in Cleveland for 10 years and in various modified forms had been adopted in Cincinnati, Youngstown, Kansas City, and Montreal. Under the service-at-cost plan, as found in these cities, the rate of fare was adjusted automatically to meet the total expense of providing service, including operating and maintenance costs, taxes and other fixed charges, allowances for depreciation, and a stated return upon the investment represented by the street-railway system. The commission was favorably impressed with the operation of the service-at-cost plan in Cleveland and decided to recommend the plan for use in Detroit. The plan which the board of street-railway commissioners drew up for service-at-cost in Detroit provided that subway, elevated, and other rapid transit lines were to be built and owned by the city but operated and maintained by the Detroit United Railway which would continue to own the surface lines. The plan provided that the city could supervise the operation of the cars on surface and rapid transit lines in that it could dictate the number of cars, routes, and other conditions directly affecting the public comfort. The city was to have the right, at the end of a five-year period, to purchase the company's lines and equipment at a price to be agreed upon in 1919 and adjusted according to the cost of any construction between 1919 and the date of purchase. The company was to establish a fund in which it would place all earnings remaining after paying actual operating expenses, maintenance, interest, sinking fund or other fixed charges and from which the company would pay operating deficits. Certain limits were to be placed on this fund; when it accumulated to the upper limit the fare was to be lowered, and when the fund dropped to the lower limit the fare was to be raised, according to a fixed sliding scale. The company was to be allowed out of gross earnings a return of 6% on the investment value as agreed upon by the city and the company in 1919.

The commission estimated that the construction of subways to relieve congestion in business districts would cost about $8,500,000, that the building of needed extensions of surface lines and the repairing of the existing lines would cost about $6,900,000, and that the purchase of needed equipment would cost about $5,500,000. Because of the long-continued agitation for municipal ownership and antagonism toward the Detroit United Rail-

way, the commission believed that the company would be unable to sell enough of its securities to provide for the needed extensions. Under the service-at-cost plan with a guaranteed return on the investment, however, the company probably could sell securities without difficulty.

The Detroit United Railway, in 1919, operated approximately 300 miles of street-railway lines in the city. The number of passengers, earnings, and operating expenses of the lines operated within the city from 1916 to 1919 are shown in Exhibit 2.

EXHIBIT 2

NUMBER OF PASSENGERS, EARNINGS, AND OPERATING EXPENSES OF DETROIT UNITED RAILWAY WITHIN DETROIT, 1916-1919*

	1916	1917	1918†	1919†
Revenue passengers	292,000,000	306,000,000	280,000,000	307,700,000
Transfer passengers	117,000,000	116,000,000	106,000,000	117,360,000
Passenger and transportation revenue	$10,609,000	$11,301,000	$12,752,000	$14,015,000
Operating expenses, taxes, and depreciation	8,529,000	9,905,000	10,920,000	11,520,000
Net earnings from operations	$ 2,080,000	$ 1,396,000	$ 1,832,000	$ 2,495,000
Revenue from operations other than transportation	161,000	171,000	175,000	180,000
Net income	$ 2,241,000	$ 1,567,000	$ 2,007,000	$ 2,675,000
Property value	$27,000,000	$29,000,000	$30,000,000	$33,000,000
Rate of return	8.3%	5.4%	6.6%	8.1%
Average fare	3.63 cents	3.69 cents	4.55 cents	4.55 cents

*From a report on the Detroit United Railway by Barclay, Parsons & Klapp, April, 1918.
†Figures for these years estimated.

The Detroit city council, in 1919, approved the service-at-cost plan which was submitted by the board of street-railway commissioners, but the mayor, who was particularly opposed to the Detroit United Railway, vetoed the plan. The commission resigned and the mayor appointed another commission, secured different engineering counsel, and prepared with their assistance a plan of municipal ownership which provided for construction by the city of about 101 miles of new track and the purchase of about 34 miles of track which had been built by the Detroit United Railway under the day-to-day agreement. In addition, the plan proposed to force the Detroit United Railway to abandon about 21 miles of track on which franchises had expired. The United States Supreme Court had upheld the authority of the city to require the company to vacate upon 90 days' notice from the city

council those streets on which franchises had expired. According to the plan, the city would purchase the 21 miles of abandoned track. The plan would give the city a separate system of approximately 156 miles or about one-half the number of miles in the Detroit United Railway in Detroit. The Detroit United Railway lines in Detroit and the city railway system as proposed by the mayor are shown in Exhibit 3.

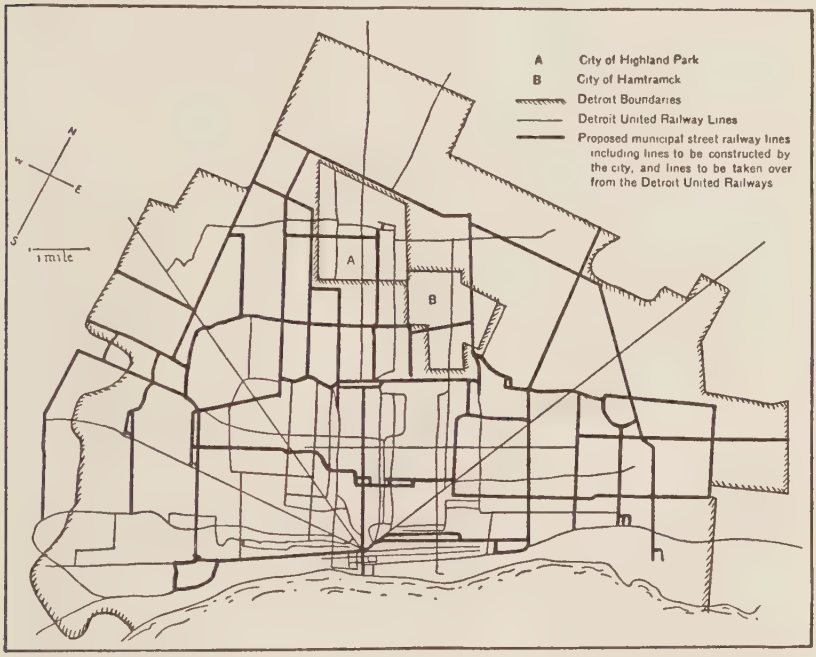

Exhibit 3: Detroit United Railway Lines and proposed Municipal Railway Lines.

The plan called for an issue of $15,000,000 of municipal bonds which the mayor estimated would be sufficient to build 101 miles of new track, to purchase the 34 miles of track constructed under the day-to-day agreement of 1913, to purchase or to replace the 21 miles of track on which the franchises had expired, and to provide equipment adequate to give service on the municipal tracks. The $15,000,000 bond issue was to run for 30 years at 4½% or 5% interest and was to be retired at the rate of $500,000 a year. The railway fare on the municipal lines was to be set at 5 cents. The mayor proposed to give a thorough trial to the Ford gasoline trolleyless cars before installing any electrical

equipment. He expected that the cost of equipping the system with gasoline cars would be only about 50% of the cost of trolley cars. Construction of the line was to be completed in two years. The mayor's plan for construction of a municipal street railway was to be submitted to the voters on April 4, 1921.

The mayor asserted that transportation was an important factor in determining social conditions and real estate values in the city and that inadequate transportation facilities placed the city at a disadvantage with other cities as a location for manufacturers. Certain plans for street-car service and street-car fares might cause congestion of living conditions in one part of the city and might retard growth in other sections. The rate structure of the Detroit United Railway, which was composed of two groups of lines on which different rates of fare were collected, was unfair to the inhabitants of certain sections of the city, and the acceptance during rush hours of workingmen's tickets at reduced rates increased the congestion of traffic at a time when the company should have made efforts to spread the peak of traffic over a longer period of time. The mayor was of the opinion that a privately owned corporation operating the street railway would not work for the best interests of the city, but if the city owned car lines it could operate them and extend service in accordance with some definite plan for the growth of the city. The mayor asserted that if the city constructed and operated a street railway, the competition soon would force the Detroit United Railway to sell its lines to the city at a low price.

Prior to the election on April 4, 1921, the Detroit United Railway circulated among voters a petition for the adoption of the service-at-cost plan as proposed by the board of street-railway commissioners in 1919. The company secured the signatures on the petition of the required number of registered voters of the city and placed the proposition on the ballot of April 4, 1921, as an alternative to the plan for municipal ownership.

The petition for the service-at-cost plan provided for the incorporation of the Detroit Service-at-Cost Railroad which was to operate the lines of the Detroit Railway in Detroit as one complete, unified street-railway system, give service at cost, and grant to the city the right to purchase or lease the lines at the option of the city. The Detroit United Railway was to own the

stock of the new company and bonds of the new company equal to the fair value of the property. The earnings of the Detroit Service-at-Cost Railroad after payment of all expenses and a 6% guaranteed return on the fair value of the road were to be placed in a stabilization fund. Similarly, any deficit remaining after payment of expenses and a fair return was to be deducted from the stabilization fund. Whenever the fund fell below 1% or increased above 3% of the value of the property, the rate of fare was to be changed to increase or decrease the passenger revenue. The plan provided for establishing a board of arbitration of five members, two appointed by the city council, two by the company, and one by those four members. The board of arbitration was to decide between the city council and the company in all matters of dispute and was to determine the reasonableness of any regulation which the city council might impose and which the company opposed. The city treasurer and the city comptroller were to be members of the board of directors of the new company. The company was to submit each year its annual budget for review by the city board of street-railway commissioners, who could disapprove any part of the same. In case of disapproval by the board of street-railway commissioners, the board of arbitration was to decide whether the budget should be changed. The city could purchase or lease the railroad at any time after the expiration of the fifth year upon giving six months' notice. Opponents to the service-at-cost plan asserted that the plan would result virtually in a perpetual franchise to the Detroit United Railway.

The municipal ownership plan was adopted by a favorable vote of 96,600 in favor and 49,568 opposed. The service-at-cost proposal was defeated by a vote of 56,673 in favor and 92,060 opposed. The city started the construction of the municipal railway tracks and by December 1, 1921, had 60 miles of new track in operation. In January, 1922, the city's engineers appraised the 273 miles of private system remaining in the city at $19,500,000. The city offered this amount to the company and the two agreed upon a purchase contract setting a price of $19,850,000 to be paid within 10 years. The purchase was approved on April 17, 1922, by a vote of 55,654 in favor and 12,174 in opposition. By May 15, 1922, the city had taken over the complete street-railway system in Detroit.

1. Should Detroit have adopted municipal ownership or the service-at-cost plan for the street-railway system?

2. Assuming that the city could not have purchased immediately the entire system of the Detroit United Railway in 1921, should the city have constructed a competing street-railway system as recommended by the mayor?

3. Should the decision have been different if the proposal had been for the purchase of a medium-sized company manufacturing automobiles?

2. Alabama Power Company

Option of Purchase by United States

On June 27, 1921, the Federal Power Commission[1] issued to the Alabama Power Company, of Attala, Alabama, a license for a project at Duncans Riffe in Coosa River, Alabama. The Coosa River is considered navigable waters of the United States.

The Alabama Power Company proposed to build a concrete dam 110 feet high and 1,275 feet long, creating a pool or storage basin 14 miles long. In the dam the company expected to install a power house with 5 turbogenerator units having a total capacity of 110,000 horse power. Of the 960 acres which were flowed by this project, 328 acres were public lands. The terms under which this license was issued are shown below:

The company shall begin within one year the construction of the

[1] The Federal Power Commission was created by act of Congress dated June 10, 1920. The Commission itself is composed of the Secretary of War, the Secretary of the Interior, and the Secretary of Agriculture, with authority to appoint various officers and clerks. Its object is to make investigations, and collect and record data concerning the utilization of the water resources of the United States; to cooperate with the executive departments; to publish its findings; and to issue preliminary permits and licenses for constructing, operating, and maintaining dams, power houses, transmission lines, and so forth.

No license shall be issued for over 50 years. Through a system of accounts which the commission has power to establish, adequate reserves shall be established for maintenance of the work. After a period of 20 years the commission may, in its discretion, order an amortization fund to be established. Any work licensed shall be completed at the earliest possible moment, and only one extension of time and for not over two years is allowed. The United States may take over any project licensed at the end of the term of the license at a fair value based on actual cost. If the United States does not care to take it over, the license may be renewed. When in any state where a license is issued there is no commission for the regulation of rates, and so forth, the commission has every power over rates, securities, and similar matters coming under its jurisdiction relative to interstate commerce. It has the power to give the right of eminent domain in certain cases, and may authorize contracts beyond the term of the license if it deems such policy wise.

dam, two generating units, the transmission line and necessary structures, and these shall be completed within three and a half years. All brush and trees in the submerged area are to be cut and moved so that none shall project above the water. Provision shall be made at one end of the dam for a flight of locks in case at any time a project for navigation is adopted, and at that time the right of passage through the dam and other structures for locks, and other navigation facilities shall be conveyed to the United States free of cost. The Alabama Power Company shall permit a continuous discharge of not less than 5,000 c.f.s., and the drawdown of the pool is limited to 10 feet; power is to be furnished free of cost for lighting, operating, and navigating facilities.

The annual charges under this license are as follows:

For use of lands	$ 103
For reimbursing for costs of maintenance prior to operation	455
First year of operation	1,090
Second year of operation	2,180
Third year of operation and thereafter	5,440

Upon completion of construction there shall be furnished under oath a statement showing the actual cost of construction, including costs both prior and subsequent to the issue of the license, and every item of cost shall be supported by vouchers. The power capacity upon which the charges for reimbursing the United States shall be based is 21,760 horse power. This amount represents the minimum primary power. If another licensee or the United States shall construct a storage reservoir or other headwater improvement, the Alabama Power Company shall reimburse the owner of such improvement. After the first 20 years of operation out of the surplus earnings, if any accumulate in excess of the specified reasonable rate of return, amortization reserves shall be maintained as determined by the commission.

1. Under what circumstances, if any, would it become advisable for the United States Government to exercise its option of purchasing this plant?

2. Would a similar license-purchase plan be appropriate for an industry such as clothing manufacturing?

XXXVII

PUBLIC FINANCE

Clay, 350-354, 365-369; Edie, 173-174, 707-744; Ely, 614-700; Fairchild, II, 341-432, 453-468; Gide, 405-413, 682-692, 729-733; Marshall, 413-424, 432-439, 467-476, 480-483, 794-804; Rufener, 723-777; Seager, 503-573; Seligman, 269-273; Taussig, II, 505-562.

1. United States

NATIONAL INCOME AND PUBLIC FINANCE

As disclosed by the census of 1920, the total population of the continental United States in that year was 105,710,620. There were 53,900,431 males and 51,810,189 females.[1] Of the 37,027,558 males 10 years of age and over, 30,091,564, or 81.3%, were gainfully employed, and of the 34,552,712 females in that age group, 8,075,772, or 23.4%, were so employed.

Occupations were classified as shown in Exhibit 1.

It has been estimated that the income of the people of the United States in 1919 was $66,800,000,000, distributed as shown in Exhibit 2.

In regard to the tax systems of the United States, the following description was included in a letter from the chairman of the Federal Trade Commission to the Senate, in 1924:[2]

> The present system of taxation in the United States is a development based upon the practices of the original thirteen states. There was great diversity in the first tax laws with respect to both the objects and principles of taxation and the methods of apportionment and collection of the taxes. Even yet it is found that there is a wide diversity in the methods of taxation employed by the various states, especially with respect to railroads, telegraph, and other companies engaged in interstate commerce.
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> . . . . . .
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> The general property, or ad valorem, tax became the predominating

[1] *Abstract of the 14th Census,* pp. 120 and 135.

[2] "Taxation and Tax-Exempt Income," 68th Congress, 1st Session, Senate Document No. 148, 1924.

EXHIBIT 1

PERSONS 10 YEARS OF AGE AND OVER IN EACH GENERAL DIVISION OF OCCUPATIONS IN 1920*

Class of Occupation	Number Employed (both sexes)	Per Cent of Each Class to Total
All occupations	41,614,248	100.00
Agriculture, forestry, and animal husbandry	10,953,158	26.3
Extraction of minerals	1,090,223	2.6
Manufacturing and mechanical industries	12,818,524	30.8
Transportation	3,063,582	7.4
Trade	4,242,979	10.2
Public service (not elsewhere classified)	770,460	1.9
Professional service	2,143,889	5.2
Domestic and personal service	3,404,892	8.2
Clerical occupations	3,126,541	7.5

Statistical Abstract of the United States, 1925, pp. 46, 47.

feature of the American system of state and local taxation before the Civil War. Owing to the difficulty of assessing personal property, there has been constant agitation during recent years for leaving entirely to local taxing authorities the levying of general property taxes, while the state continues to tax corporations. California, Pennsylvania, and Delaware have left to the local taxing authorities the

EXHIBIT 2

ESTIMATED INCOME OF PEOPLE OF UNITED STATES, 1919*

Recipients	Number of Persons	Income (billions of dollars)
Persons receiving under $2,000 each	33,913,000	39.5
Persons receiving over $2,000 each	5,608,000	25.3
Total number of persons	39,521,000	
Total individual income		64.8
Corporate surplus		2.0
Total national income		66.8

*National Bureau of Economic Research, *Income in the United States*, Vol. II, 1922, p. 331.

administration of the general property tax, while New York State levies a general property tax only when and to the extent that additional revenues are required. Motor and gasoline taxes have become an important source of state and local revenue in recent years. Twelve states levy income taxes, and inheritances have been a general subject

of state taxation for over 30 years. The Federal Government also collects taxes on inheritances as well as on income.

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Up to the close of the last century taxes for Federal purposes were derived almost entirely from customs duties and internal excises, except during the Civil War period, when, among others, income, corporation, and inheritance taxes were levied. The increase in Federal expenditures since the close of the last century led to an extension of the sources for raising revenues. A corporation tax was adopted in 1909, an income tax in 1913, and an inheritance tax in 1916, and still other sources were resorted to after entry of the United States into the World War.

. . . . . .

While the tax burden bears heavily upon all industries, it is especially onerous on agriculture, particularly in the wheat-raising states, which have experienced a severe depression due to excessive price deflation in agricultural products. Reflecting the economic distress of the agricultural population, the mercantile, and bank failures in Idaho, Kansas, Nebraska, Iowa, the Dakotas, and Montana increased during 1920 to 1924 in much greater proportion than in the country as a whole. Nearly one-fourth of all the farmers in Kansas and Iowa, nearly three out of every ten farmers in Nebraska, nearly four out of every ten in South Dakota, over half those in North Dakota, and five farmers out of every eight in Montana have either lost their properties in bankruptcy or foreclosure proceedings or otherwise, or retain them only through the leniency of their creditors. A similar situation prevails in Idaho. Plans for a reduction of the present great burdens of taxation should be adjusted especially with a view to this depressed condition of agriculture.

Statistics of income for the United States, as published for the year 1924, contained information including the following data:[1]

Throughout this report the term "net income" is used to mean the excess of gross income, as defined in the revenue act effective for the year for which the returns were filed, over the deductions claimed by the taxpayer under the provisions of the respective acts. Similarly, the term "deficit" is used to mean the excess of such deductions over gross income.

The income tax returns for 1924 were filed under the provisions of the Revenue Act of 1924.

. . . . . .

INDIVIDUAL RETURNS

The distribution of the returns of individuals by income classes is exhibited in Exhibit 3, which shows the number of returns filed, the amount of net income reported, and the tax yield. . . . .

[1] From *Statistics of Income—Returns of Net Income for 1924,* Treasury Department, 1925, pp. 1, 5, 9, 10, 12, 13, 14.

Exhibit 3

Simple . . . . Distribution of Individual Returns by Income Classes Showing Number of Returns, Net Income and Tax, and Percentages, Calendar Year 1924

Income Classes	Returns		Net Income†		Tax	
	Simple Distribution*		Simple Distribution		Simple Distribution	
	Number in Each Class	Per Cent of Total	Amount in Each Class	Per Cent of Total	Amount in Each Class	Per Cent of Total
Under $1,000	344,876	4.68	$ 235,451,546	0.92	$ 145,629	0.02
$1,000 to $2,000	2,413,881	32.75	3,564,474,084	13.89	10,432,394	1.48
$2,000 to $3,000	2,112,993	28.67	5,277,147,446	20.57	10,207,284	1.45
$3,000 to $5,000	1,800,900	24.44	6,827,924,126	26.61	26,865,387	3.81
$5,000 to $10,000	437,330	5.94	2,991,187,905	11.66	28,827,944	4.09
$10,000 to $25,000	191,216	2.59	2,855,396,811	11.13	78,068,669	11.09
$25,000 to $50,000	47,061	.639	1,599,848,363	6.24	109,359,811	15.53
$50,000 to $100,000	15,816	.214	1,066,783,643	4.16	136,636,004	19.40
$100,000 to $150,000	3,065	.042	377,644,950	1.47	75,677,735	10.75
$150,000 to $300,000	1,876	.025	374,609,374	1.46	92,480,898	13.13
$300,000 to $500,000	457	.006	171,248,552	.66	45,771,131	6.50
$500,000 to $1,000,000	242	.003	158,462,179	.62	42,585,301	6.05
$1,000,000 and over	75	.001	155,974,475	.61	47,207,203	6.70
Total‡	7,369,788	100.00	$25,656,153,454	100.00	$704,265,390	100.00

*[The Treasury report contained cumulative totals also.]

†Capital net gain from sale of assets held for more than two years is included in net income, but capital net loss from sale of assets held for more than two years and prior year loss are not deducted.

‡[Of persons having incomes large enough to be legally required to be reported.]

EXHIBIT 4

TOTAL INCOME IN INDIVIDUAL RETURNS DISTRIBUTED BY NET INCOME CLASSES, SHOWING SOURCES OF INCOME IN DETAIL, CALENDAR YEAR 1924

Income Classes	Total Income	Sources			
		Wages and Salaries	Business	Partnerships	Profits from Sale of Real Estate, Stocks and Bonds*
Under $1,000	$ 450,223,101	37.53%	21.34%	3.96%	2.21%
$1,000 to $2,000	4,037,740,127	68.87	12.36	2.11	.88
$2,000 to $3,000	5,923,757,858	60.54	18.15	3.27	1.44
$3,000 to $5,000	7,756,514,671	46.29	23.13	5.17	2.89
$5,000 to $10,000	3,500,579,702	43.47	17.99	9.26	5.87
$10,000 to $25,000	3,356,760,555	33.25	12.06	10.22	8.44
$25,000 to $50,000	1,848,294,489	25.22	8.40	10.25	8.49
$50,000 to $100,000	1,245,097,171	18.93	5.50	10.45	5.75
$100,000 to $150,000	439,293,800	15.34	3.16	10.53	4.53
$150,000 to $300,000	442,138,340	11.23	2.94	10.26	4.47
$300,000 to $500,000	203,996,574	8.60	1.21	7.73	3.32
$500,000 to $1,000,000	184,262,919	6.77	1.08	4.40	1.82
$1,000,000 and over	190,337,268	2.12	.66	5.43	1.55
Total	$29,578,996,575	46.04%	16.08%	6.12%	3.80%

*Other than capital net gain from sale of assets held for more than two years.

Exhibit 4 shows, by net income classes, the distribution of the total income among . . . . sources. . . . .

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Exhibit 5 shows the returns of corporations distributed by industrial groups, and segregated according to "Corporations reporting net income" and "Corporations reporting no net income."

Regarding the partial or entire exemption from taxation of many of the securities issued by the Federal Government and by the various local governments, a report to the Senate in 1924 read in part as follows:[1]

There were outstanding at or near the close of 1922 wholly Federal tax-free securities amounting, in round numbers, to $11,732,000,000. These bore wholly Federal tax-free interest to the extent of more than $483,000,000 a year. In addition to these, there were outstanding nearly $20,189,000,000 of bonds and notes that were free from Federal normal income tax, but exempt from Federal surtaxes only to a narrowly limited extent. The interest so exempt from normal tax amounts to more than $873,000,000 a year. Taking both classes together, the par value of wholly or partly tax-exempt securities outstanding at the close of 1922 was nearly $31,921,000,000, and the amount of interest that was free from at least the normal Federal income tax was nearly $1,357,000,000. Later data are not available.

[1] "Taxation and Tax-Exempt Income," 68th Congress, 1st Session, Senate Document No. 138, 1924 (letter from the chairman of the Federal Trade Commission), pp. 1-5, 8-10.

EXHIBIT 4 (*Continued*)

TOTAL INCOME IN INDIVIDUAL RETURNS DISTRIBUTED BY NET INCOME CLASSES, SHOWING SOURCES OF INCOME IN DETAIL, CALENDAR YEAR 1924

Sources						
Capital Net Gain from Sale of Assets Held for More Than Two Years	Rents and Royalties	Interest and Investment Income	Interest on Government Obligations Not Wholly Exempt from Tax	Dividends	Fiduciary	Total Income
.....	16.31%	11.69%	....	5.93%	1.03%	100.00%
.....	6.55	6.45	....	2.03	0.74	100.00
.....	7.44	6.37	....	2.42	0.38	100.00
.....	8.52	8.50	....	4.91	0.60	100.00
.....	6.61	7.38	....	8.34	1.07	100.00
.....	5.49	8.84	0.28%	19.59	1.83	100.00
1.93%	3.81	9.10	0.44	30.03	2.33	100.00
6.64	3.55	8.55	0.47	37.65	2.52	100.00
11.07	3.12	8.04	0.38	41.37	2.45	100.00
16.12	3.15	7.58	0.51	41.47	2.27	100.00
22.60	2.53	6.29	0.34	45.12	2.26	100.00
29.42	1.50	5.59	0.49	45.83	3.10	100.00
26.62	2.42	5.56	0.36	53.98	1.31	100.00
1.32%	6.79%	7.71%	0.10%	10.99%	1.05%	100.00%

Of this huge mass of tax-exempt securities, those issued by the Federal Government amounted to nearly $22,483,000,000, and the tax-exempt interest therefrom amounted to more than $943,000,000 a year at the rates named in the securities. Of this interest $70,245,000, representing a face value of bonds to the extent of about $2,294,000,000, was wholly tax free. The remaining $873,200,000 of interest is wholly exempt from normal income tax, but after 1926 will be exempt from surtax to a possible extent of not more than $213 per individual owning the bonds.

Of the remaining wholly tax-free bonds, $74,345,000 were issued by the United States possessions, $949,873,000 by the various states and territories, nearly $7,773,000,000 by the counties, municipalities, school districts, and other local governments, while $641,208,000 were issued by the various land banks under provisions of the Federal Farm Loan Act of July 17, 1916. The wholly tax-free interest from these securities amounted to a little under $3,393,000 for the obligations of the possessions, about $42,226,000 for the obligations of the states and territories, about $338,741,000 for local government obligations, and about $28,854,000 for land-bank bonds.

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. . . . It is estimated that of the entire $31,921,000,000 of interest-bearing tax-exempt bonds, notes, and certificates outstanding at or near the close of 1922, business corporations held $10,700,000,000 or about one-third; individuals whose taxable incomes for 1922 exceeded $10,000 held over $4,450,000,000, and that the remaining $16,771,000,000 was distributed, in the main, among that great body of individuals whose

Exhibit 5

Corporation Returns Distributed by Major Industrial Groups and by Corporations Reporting Net Income and No Net Income, Showing Number of Returns and Percentage of Total, Gross Income, Deductions, Net Income (or Deficit), Prior Year Loss, and Income Tax, Calendar Year 1924*

Corporations Reporting Net Income

Industrial Groups	Total Number of Corporations	Number	Per Cent of Total Reporting	Gross Income	Net Income (Gross income less allowed deductions)	Prior Year Loss Deductions from Net Income for Net Taxable Income	Income Tax		
							Amount	Per Cent of Net Income	Per Cent of Total Tax
Agriculture and related industries	9,758	4,530	46.42	$ 566,071,853	$ 64,229,810	$ 5,008,556	$ 6,732,877	10.48	0.76
Mining and quarrying	18,453	4,893	26.52	2,589,850,450	240,141,930	9,031,839	28,389,340	11.82	3.22
Manufacturing:									
Food products, beverages, and tobacco	14,442	9,080	62.87	10,745,132,363	536,852,421	19,161,351	63,376,159	11.81	7.19
Textiles and textile products	12,229	6,836	55.90	4,842,252,450	316,927,779	7,202,487	37,650,962	11.88	4.27
Leather and leather products	2,428	1,341	55.23	1,046,930,937	70,319,008	2,979,208	8,036,845	11.43	.91
Rubber and rubber goods	638	325	50.94	937,869,765	56,900,060	11,322,163	5,661,977	9.95	.64
Lumber and wood products	7,663	4,750	61.99	2,207,209,625	178,869,396	4,264,040	21,090,098	11.72	2.39
Paper, pulp, and products	1,886	1,204	63.84	1,163,208,615	92,674,293	5,863,210	10,674,546	11.51	1.21
Printing and publishing	9,618	6,278	65.27	1,878,830,803	175,972,060	2,459,342	20,802,013	11.82	2.36
Chemicals and allied substances	6,601	3,640	55.14	5,157,013,861	466,184,064	9,281,521	56,649,624	12.15	6.43
Stone, clay, and glass products	4,356	2,735	62.79	1,216,633,248	162,403,306	2,859,793	19,151,889	11.79	2.17
Metal and metal products	20,170	11,227	55.66	13,947,990,822	1,340,597,253	26,193,939	162,978,504	12.16	18.49
All other manufacturing industries	6,772	3,926	57.97	2,176,943,775	197,975,248	4,764,720	23,580,176	11.91	2.68
Total manufacturing	86,803	51,342	59.15	$45,320,016,354	$3,595,674,888	$ 96,351,774	$120,652,793	11.05	48.74
Construction	13,176	8,701	66.04	$ 1,784,608,994	$ 132,704,218	$ 10,033,814	$ 13,911,675	10.48	1.58
Transportation and other public utilities†	22,431	14,565	64.93	9,099,039,812	1,232,012,201	28,170,309	148,278,140	12.04	16.82
Trade	105,323	68,112	64.67	28,625,232,657	1,098,585,578	29,734,212	120,648,795	10.98	13.69
Public service—professional, amusements, hotels, etc.	26,320	15,495	58.87	2,049,142,401	202,165,035	6,440,287	22,130,913	10.95	2.51
Finance—banking, insurance, related business, etc.	104,761	67,089	64.04	6,766,187,881	995,123,931	29,489,684	109,444,007	11.00	12.41
Combinations—predominant industry not ascertainable	3,957	1,662	42.00	358,756,223	26,014,701	5,466,691	2,361,006	9.08	.27
Inactive concerns	26,439	.....	.....	.....	.....	.....	.....	.....	.....
Grand total	417,421	236,389	56.63	$97,158,996,625	$7,586,652,292	$219,727,166	$881,549,546	11.62	100.00

*Fiscal year returns are included.
†Gross income and general deductions incomplete.

taxable incomes were below $10,000 or by eleemosynary corporations.

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The average holdings of tax-exempt securities were $7,500 principal value per individual reporting in the $10,000 to $25,000 taxable income group. In the $25,000 to $50,000 group, the average was $28,000. In the $50,000 to $100,000 group, it was $56,000 per individual; in the $100,000 to $150,000 group, $119,000; in the $150,000 to $300,000 group, $227,000; in the $300,000 to $500,000 group, the average was $753,000; in the $500,000 to $1,000,000 group, it was $3,080,000; and in the group with taxable incomes in excess of $1,000,000 each the average tax-exempt holdings amounted to $1,306,000 per individual reporting. These averages refer to all reporting individuals, irrespective of whether they did or did not own such securities.

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The total bonded debt of the 48 state governments was $1,009,000,000 in 1922. . . . .

The main purposes for which the state governments have issued bonds have been highway construction, harbor and waterway improvements, and, in 1922, the payment of bonuses to World War veterans. The most important element in their debt in 1917 was for harbor and waterway improvements, which accounted for 36% of the whole. Four-fifths of this was incurred by New York State alone, principally in reconstructing the Erie Canal. While the total of the obligations for this purpose had increased somewhat by 1922, those for other purposes had increased so much more rapidly that the harbor and waterway bonds amounted to only one-fifth of the whole in that year and had yielded first place to the highway bonds, which had become twice as numerous.

. . . . . .

The above-mentioned three purposes accounted for nearly three-fourths of the state government bonds extant in 1922. Charities and corrections, public buildings, education, parks and reservations, war loans, and a variety of other purposes, including an item labeled "agriculture," account for the remainder. The item "agriculture" consisted largely of nearly $48,000,000 of bonds issued by the Dakotas and Oregon, most of which were to provide funds for loans to farmers on farm mortgages.

The net bonded debts of the 12 cities that had populations in excess of a half-million inhabitants each increased from $1,560,000,000 in 1917 to $1,896,000,000 in 1922, or a little more than one-fifth. . . . .

The net debt of the 9 municipalities with populations between 300,000 and 500,000 inhabitants each, also increased about one-fifth. The corresponding obligations of 35 cities with populations between 100,000 and 300,000 for which data were compiled increased more than two-fifths.

Five main purposes accounted for 64% of the gross bonded debt of

the largest 12 cities, 70% of that of the 9 municipalities in the intermediate group, and 72% of the corresponding obligations of the 35 medium-sized cities: provision of water facilities . . . . provision of docks, railway connections, and other facilities for interchanging traffic with external transportation systems . . . . street paving, tunnel and viaduct construction, construction of municipal rapid transit tracks and provision of other local traffic facilities . . . . provision of sewer systems and of facilities for disposing of sewage and garbage . . . . provision of educational facilities—school and library buildings and equipment. . . . .

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In the debt incurred by counties and minor civil divisions the outstanding purposes of issue are road and bridge construction, support of education, and land reclamation. These combined accounted for nearly 70% of the total in 1917 and for more than 80% of it in 1922. In the later year debt for roads and bridges amounted to over $900,000,000, or more than 36% of the total, while that for education amounted to over $800,000,000, or more than 31% of the total. Debt for both of these purposes showed very great increase during the period—over 230% for roads and bridges and nearly 170% for education.

. . . . . .

There has been much popular argument on the subject of tax exemption. The chief arguments in favor of exempting all governmental securities from income taxation have been: (1) the governments can thus borrow funds for public works construction at considerably lower effective interest rates than if the interest were taxable, thus saving considerable outgo both in interest and in expense of collecting the larger revenue that would have to be collected if the interest were taxable; (2) the original purchasers of the obligations do not in effect escape taxation, but pay it in the form of accepting a smaller amount of interest than they would require were the interest taxable; (3) exemption of interest from obligations of the state and local governments from Federal income taxation, and of the Federal Government from state and local taxation is necessary in order to preserve and safeguard the dual sovereignty system of government established by the Constitution. The Supreme Court has not passed on the last stated point since the adoption of the Sixteenth Amendment.

The chief arguments urged against exemption of interest from these obligations are: (1) the exemption from surtaxes is not adequately reflected in the prices of the bonds or the effective interest rates because the aggregate amounts of them outstanding have become so great that a large part of the market for them must be found among individuals with comparatively small incomes, to whom the exemption privilege is of little or no value; (2) the high surtaxes are diverting savings from ordinary productive industry to these tax-exempt securities, even causing state and local governments to enter upon extravagant programs of public works construction in order to provide adequate exemption

facilities for wealthy individuals; (3) railroads, public utilities companies, building construction enterprises, and other private enterprises are not able except at very high interest rates to borrow the money they need because of the successful competition of state and local governments with their tax-exempt securities.

In the *Annual Report of the Secretary of the Treasury on the State of the Finances* for the fiscal year ended June 30, 1926, the Secretary said, in part:[1]

The Federal Government in time of peace should meet its expenditures from current revenues. The source of a government's revenue is taxation. Taxation must be sufficient to carry out the policies which the Federal Government deems essential for the welfare and happiness of its citizens. It is the duty, therefore, of the government to determine what policies should be essential, and, if they can be more than met over a series of years from taxation, to reduce taxes. Conversely, if the governmental revenues are not sufficient, then it is the duty of the government to increase taxes.

RECEIPTS

The continued high level of government receipts during the fiscal year ended June 30, 1926, evidences the prosperity which has prevailed in the nation since the early part of 1925. The increased receipts from taxation, as shown in Exhibit 6, have more than offset the reduction in miscellaneous receipts, and total ordinary receipts for the fiscal year 1926 were $3,962,755,690, compared with $3,780,146,684 for the fiscal year 1925, an advance of $182,609,006.

Income taxes returned $1,982,000,000, compared with $1,760,000,000 in 1925, and $1,842,000,000 in 1924, notwithstanding the reduction in individual income tax rates in the Revenue Act of 1926 affecting receipts the last half of the fiscal year. Collections on account of income tax returns of prior calendar years were $19,000,000 larger than similar collections in 1925. The increased tax receipts, however, reflect primarily the marked growth in incomes of individuals and corporations during the calendar year 1925, an increase which more than compensated for the reduction in normal and surtax rates and the increased personal exemptions and credits on incomes of individuals. Receipts from income taxes, corporation and individual, in March and June, 1926, were $500,000,000 and $443,000,000, as compared with $441,000,000 and $377,000,000 for the same months, respectively, in 1925.

. . . . . .

The increase in miscellaneous internal revenue for the fiscal year 1926 was not as great as estimated in October, 1925, largely because of tax reductions in the new revenue act. However, receipts from these sources were $27,000,000 more than in 1925, due to increased collections on taxes on estates of decedents, tobacco and tobacco manufac-

[1] Pages 6, 18, 22, 26-28, 31, 32.

Exhibit 6

Ordinary Receipts, Fiscal Years 1920 to 1926

(Basis of daily Treasury statements, unrevised)

Year Ending June 30	Customs	Income and Profits Taxes	Miscellaneous Internal Revenue	Miscellaneous Revenues Including Panama Canal		Total
				Proceeds from Foreign Obligations	All Other	
1920	$322,902,650	$3,944,949,288	$1,460,082,287	$ 74,296,622	$892,234,542	$6,694,565,389
1921	308,564,391	3,206,046,158	1,390,379,823	114,821,206	605,121,383	5,624,932,961
1922	356,443,387	2,068,128,193	1,145,125,064	75,222,068	464,185,439	4,109,109,151
1923	561,928,867	1,678,607,428	945,865,333	232,989,156	587,744,697	4,007,145,481
1924	545,637,504	1,842,144,418	953,102,618	221,774,675	449,475,487	4,012,044,702
1925	547,561,226	1,760,537,823	828,638,068	183,637,677	459,773,890	3,780,148,684
1926	579,430,093	1,982,040,088	855,599,289	194,237,957	351,448,263	3,962,755,690

tures, automobiles and parts, and corporation capital stock tax. Receipts from miscellaneous sources fell off, primarily because of a decline on account of government-owned railroad securities from $143,911,421 in 1925 to $36,735,327 in 1926.

EXPENDITURES

The expenditures of a government summarize its activities. Both the scope and relative importance of the various tasks required of the Federal Government are shown more clearly by a summary of its disbursements than in any other way. Furthermore, an analysis of the trend of expenditures in the last few years furnishes the best basis for judging the probability of a further reduction in the cost of government in the immediate future—a question which is of widespread interest on account of its bearing on the feasibility of tax reduction. In any comprehensive survey of the government's fiscal condition, therefore, it is necessary to carefully examine its expenditures.

The tendency for expenditures to increase in ordinary times is not confined to any one period or country but, on the contrary, seems to be a universal phenomenon. Among the principal causes may be enumerated:

1. The rising level of general prices;
2. The increasing population;
3. The increasing cost of armaments and accumulation of expenses attributable to past wars;
4. The expanding sphere of governmental activity required by the increasing congestion of population and made possible by augmented national wealth; and
5. The rising standards in governmental activities and efficiency, a necessary concomitant to a rising general standard of living in a progressive country.

. . . . . .

. . . . when disbursements increase only in proportion to rising prices and the growth of population, it is prima facie evidence that no change has taken place in the average quality or amount of service performed per capita. Hence, after the expenditures for each function are corrected for price changes and reduced to per capita figures, the trends of real significance are more readily apparent. Exhibit 7 gives, for each function, the per capita expenditures corrected for price changes, beginning with the fiscal year 1915. The price index used in this calculation is composed of price indexes of commodities and services entering into government expenditures, weighted according to their relative importance in the fiscal years 1924 to 1926, which constitute the base period.

The Revenue Act of 1926 accomplished many of the reforms which the Treasury believed the tax system needed and which the Revenue Act of 1924 failed to incorporate and went further in the reduction of the tax burden. Reductions were made in individual income taxes in

Exhibit 7

Functional Distribution of Per Capita Expenditures Reduced to 1924-1926 Price Level, Fiscal Years 1915 to 1926

(In dollars of 1924-1926 purchasing power)

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926
General government	0.65	0.64	0.62	0.76	1.07	1.18	1.12	0.99	0.97	0.96	0.91	0.88
Internal security	.34	.28	.28	.27	.32	1.36	.49	.42	.47	.45	.65	.64
Development and regulation	.76	.71	.76	1.13	1.64	.98	1.12	.97	.97	.95	.95	.95
Public domain, works and industries	1.71	1.22	1.42	11.64	23.51	16.10	8.78	1.86	3.18	2.00	2.56	2.37
Local governments and Indians	.39	.38	.37	.34	.34	.36	.41	.39	.38	.39	.47	.49
Foreign relations	.07	.07	.07	.09	.09	.10	.08	.09	.13	.12	.13	.13
Total ordinary civil functions	3.92	3.30	3.52	14.23	26.97	20.08	12.00	4.72	6.10	4.87	5.67	5.46
Military functions	6.28	6.29	10.71	81.43	119.80	22.86	16.80	14.36	12.27	10.89	10.17	10.20
Public debt	.33	.33	.32	2.18	6.29	21.39	13.34	18.79	15.41	18.34	14.24	14.79
Loans	.....	.....	11.46	54.30	39.63	5.84	2.76	.15	.32*	.09	†	†
Trust funds	.20	.14	.26	.24	.25	.33	.55	.65	.69	.78	1.57	1.91
Refunds, losses, etc.	.22	.30	.30	.38	.69	.44	.51	.83	1.46	1.43	1.65	1.85
	10.95	10.35	26.57	152.76	193.63	70.94	45.96	39.50	35.61	36.40	33.30	34.21

*Credit.
†Less than one-half cent.

both normal and surtaxes. Personal exemptions have been increased, thus freeing from tax about 3,400,000 taxpayers in the lower income brackets. The credit for earned incomes was increased. The effect of all these changes in individual income taxes for a typical case, a married taxpayer without dependents, is shown in Exhibit 8.

Exhibit 8

Taxation of Individual Income of Varying Amounts under the Revenue Acts of 1924 and 1926

(Taxpayer assumed, a married man, wholly independent, with no children or other dependents, earned income of $5,000)

Net Income	Revenue Act of 1924		Revenue Act of 1926	
	Tax	Percentage Tax to Income	Tax	Percentage Tax to Income
$ 1,000	0	0	0	0
2,000	0	0	0	0
3,000	$ 7.50	0.25	0	0
4,000	22.50	.56	$ 5.63	0.14
5,000	37.50	.75	16.88	.34
10,000	207.50	2.08	129.38	1.29
50,000	6,137.50	12.28	5,079.38	10.16
100,000	22,617.50	22.62	16,259.38	16.26

The tax on corporation capital stock was repealed, but the rate on corporate net income was raised to 13½% for 1926.

1. Should the income tax reduction as described above have been made?

2. Should the income from all governmental bonds be taxed? If so, should it be taxed at the same rates as apply to income from other bonds?

3. Is exemption of such interest essentially the same in effect as the exemption of many imported commodities from import duties? (See, for example, case on Methanol, especially Exhibit 5, page 302.)

4. Why is the number in each income class as shown in Exhibit 3 important for the seller of an expensive consumers' good?

5. Which groups could afford to buy each of the various classes of automobiles sold by the General Motors Corporation? (See list on page 123.)

2. Sales Tax

PROPOSED PLAN

The Taxation Committee of the National Retail Dry Goods Association, in 1920, proposed, in a report made to the Executive Committee of that organization, that the Revenue Act of 1918 should be so amended that approximately 50% of the total revenue of the United States Government would be derived from a tax on gross sales of commodities. The taxation committee stated that in its opinion a "Gross sales tax of not more than ½ of 1% would be ample." The report of the committee read in part as follows:

Sales Tax. The exact amount of revenue to be raised by such tax can only be approximated, but according to our plan it would undoubtedly be less than $2,000,000,000, or not more than 50% of the total revenue requirement. The gross sales of the United States have been variously estimated, but experts agree that the amount is somewhere between $1,200,000,000,000 and $1,500,000,000,000. One leading economist, recognized as an authority on the subject, has arrived at a figure of $1,269,000,000,000 for 1918.

These figures are quoted not to convey the impression that a sales tax should apply to sales of any such amount, but to show that with the elimination of exchange turnover, such as grain, cotton, stock, sales of securities, and so forth, and with the additional removal from consideration as sales, of broker's fees, professional services, rents, royalties, there would remain a total of true sales of goods, wares, and merchandise on which a tax of even ½ of 1% would supply the $2,000,000,000 tax revenue, which by our plan, must be derived from a sales tax.

The sales tax plan is criticized because apparently it will be a direct tax on the business which makes little or no profit. In answer to such criticism it should be recalled that our plan grants to all business an income tax exemption of $5,000, which is $3,000 more than the corporation normal tax exemption under the 1918 Act, and that a sales tax will be considered by all business, successful or unsuccessful, as an added expense which will be passed on to the consumer. The fact that it is noncompetitive, in that all dealers must pay it, should remove from thinking minds any apprehension that it can possibly operate to the disadvantage of a business which makes small profit. Indeed it is fair to presume that in the expectation of having to pay excess profit or surtaxes of unknown amounts the business man today in planning his prices, adds to them a far greater element of tax because of the very uncertainty as to the amount of such tax than he will add under our plan of a normal tax on business plus a tax on sales. Uncertainty in figuring selling prices and in the calculation of expected profits is removed.

The advantages of a sales tax include that of an equal payment by

everybody in the country, and as it will not be paid by the consumer as a tax and, as it is in itself of so small an amount, little criticism by the consumer may be expected. The simplicity of its administration is apparent when it is understood that it will be paid by the business each month, if necessary, on sales as disclosed by records.

Under the present system of tax payment, the government is forced to anticipate its receipts of taxes by issuing short-term certificates, the interest on which, as it must be paid from tax revenue, reduces the amount which accrues to the government from taxes. Monthly payment of sales taxes will provide a steady flow into the Treasury of at least one-half of all taxable revenue and remove much, if not all, of the necessity for such anticipation.

The Smoot sales tax bill, one of the simplest of several bills introduced in the United States Congress in 1921, provided for the taxation of all sales of goods, wares, or merchandise. A portion of that bill follows:

Business Sales Tax. That in addition to all other taxes there shall be levied upon every person carrying on a business involving the sale of any goods, wares, or merchandise, manufactured or purchased by such person for sale, a tax equal to one-half of one per centum of the amount by which the gross sales of such goods, wares, and merchandise exceed the sum of $6,000 in any calendar year. The term sale in this title includes lease and license. The production of coal, fuel oil, or other mineral shall constitute manufacture under this act.

Sec. 901. (*a*) Every person liable for any tax imposed under this title shall make monthly returns under oath in duplicate and pay the taxes imposed by such title to the collector for the district in which is located the principal place of business. Such returns shall contain such information and be made in such time and place and in such manner as the commissioner, with the approval of the Secretary, may by regulation prescribe.

(*b*) In any case where the full amount of $6,000 yearly exemption is not claimed in computing the tax due for any month, the part not so claimed shall be deducted in computing the tax due for any succeeding month until the total exemption for any calendar year shall equal $6,000.

Canada adopted a sales tax act in 1920. That act was amended several times and in January, 1924, an essentially new form of the act went into effect. The tax rates under the amended act in effect prior to 1924 were based on selling price, applied to sales of manufacturers and wholesalers, including sales of imports, and varied in the case of manufacturers depending upon whether sales were made to wholesalers or to retailers or consumers. Under this act the tax was 2¼% on sales of manufac-

turers to wholesalers and on sales of wholesalers to retailers, and 4½% on sales of manufacturers to retailers or to consumers. Sales of retailers were tax free, as also were raw foodstuffs and certain essential food products.

In 1924 the sales tax rate for all sales to which the tax applied was 6%, with certain specified exceptions. The rate was reduced to 5% in 1925. Under the revised act in effect after January 1, 1924, all manufacturers and producers, except small manufacturers or producers selling exclusively at retail, were required to take out annual licenses. A wholesaler or jobber giving security for an amount not more than $15,000 and not less than $2,000 and keeping adequate books of accounts for the purposes of the sales tax act might be granted an annual license. The sales tax applied to all sales of manufacturers, producers, wholesalers, and jobbers, including sales of imports, except that certain goods were exempted and that the tax was not payable on sales of a licensed manufacturer or producer to another licensed manufacturer or producer if the goods were to be used in, wrought into, or attached to articles to be manufactured or produced for sale; or on goods sold by a licensed manufacturer or producer to a licensed wholesaler or jobber; or on sales of a licensed wholesaler or jobber to a licensed manufacturer or producer. Whereas the sales tax prior to 1924 applied in every instance to selling prices, under the revised act the tax applied to a licensed manufacturer's selling price but to a licensed wholesaler's purchase price, though in this latter case the tax was not payable until the goods were sold. The tax was payable in the month following sale. Purchasers were furnished with written invoices of sales which stated separately the amounts of the taxes.

In regard to the Canadian sales tax, the Hon. Alfred W. Speakman, Member of Parliament and lieutenant of Robert Forke, leader of the Progressive party in the Canadian Parliament, said in part:[1]

1. This tax levied at its source must inevitably be increased by the pyramiding of profits as the goods pass through the hands of wholesalers, jobbers, retailers, and so forth, with the result that the ultimate purchaser must pay a sum greatly in excess of the amount received by the Federal Treasury. Thus the present proposed tax of 6% would approximate 10% as added to the retail price of the goods affected.

[1] In a letter quoted by H. Archibald Harris, C.P.A., "The Canadian Sales Tax," *American Review of Reviews*, December, 1923.

2. A sales tax of this nature is unsound in its application, as it is not based on the taxpayer's ability to pay but on the amount of goods which he must purchase. In that way it will increase in direct ratio to the number of dependents he may have, and might be appropriately termed a "baby" tax, acting as a direct deterrent to the rearing of families.

3. Under this tax also, the smaller a man's available income, the greater the percentage of taxation, as a larger percentage of that income must be expended in the purchase of those taxable commodities.

In an article[1] appearing in *Printers' Ink* in January, 1922, the adoption of a sales tax by the United States was advocated. This article pointed out various benefits which the writer expected would follow the adoption of such a tax and read in part as follows:

There are three kinds of sales taxes which have been discussed.

The first is a retail tax, which many have advocated in order to prevent what is called pyramiding.

The difficulty with the collection of this tax would be to determine who the ultimate consumer is, and while it would be impossible to pyramid the tax, if this applied, it would have to be enacted at a rate at least three times as high as a general commodity tax, and would therefore look oppressive, while in point of fact it would not be.

The second kind of sales tax is the tax on goods, wares, and commodities. . . . . And that, I believe, is the form under which the tax will first be enacted into law.

At 1% it should raise close to one and one-half billion of dollars, and painlessly so.

The third tax is a general turnover tax which would be levied on all transactions except on capital assets. . . . . It is my firm conviction that we will some day be working under this type of the tax, and wonder why we ever had any other kind.

The adoption of the sales tax would lead to the abolition of all excess profits taxes, of all the present 51 sales taxes, of all surtaxes on incomes.

1. By the adoption of the sales tax we could do away with the hopeless present system of tax returns—so complicated, so intricate and involved, so incapable of interpretation to the average business mind, that I believe there is hardly 10% of our business community who can make out their tax statements unassisted.

. . . . . .

5. The taxpayers would have to add up their sales once a month, and send in their checks for that percentage of the total at which the tax is levied. No one would have to wait years to find out what his

[1] Jules S. Bache, "Benefits That a Sales Tax Would Bring to Business," *Printers' Ink*, January 5, 1922.

tax ultimately would amount to, and even then not be sure of it. Every taxpayer would know every day what his tax for that day amounted to.

6. The distribution of the burden would be just, divided equally in proportion to their means and expenditures among the entire population of the country, and, above all, divided up into such small ultimate levies that nobody would feel it and few would know it. It would fall like the rain on small and great alike, but those who consumed and spent the most would pay the most taxes.

7. The tax would be passed on and ultimately be absorbed in the price to the consumer, and in a great percentage of cases would not really affect that price.

8. The ultimate consumer pays all taxes now, but he undoubtedly pays far more than the amount that the government receives. This is so because the seller now has to guess at what his tax will be, and includes it in his price based on that guess and by reason of the uncertainty of that guess it is but human for him to give himself the benefit of any doubt, and add sufficient to what he thinks his tax ought to be to cover him in case that the final arbiter may differ with his opinion.

. . . . . .

10. The sales tax would make for a steady income to the government, collected from the people gradually throughout the year, and fluctuating in very small percentage, whether times were good or bad, since the volume of business rarely fluctuates in one year more than 10%. So that the making of a budget would become a far easier matter than it is at present.

11. It would take the advantage out of the tax-exempt security. It would make it unnecessary for the capitalists of this country to seek refuge from the punitive taxes as now levied, by investing in these securities.

Should a sales tax, similar either to the Smoot or the Canadian plan, be adopted by the United States?

3. Philadelphia, Pennsylvania

Assessment of properties for benefits accruing from public improvements

In 1923 the laws of Pennsylvania permitted cities in that state to finance, in whole or part, the making of certain public improvements by levying special assessments against the properties abutting on the improvements. In that year the state legislature adopted a joint resolution[1] proposing that Philadelphia be allowed to extend the assessments to properties in additicn to those

[1] Joint Resolution, 1923, P. L. 1125.

abutting on such improvements or utilities. For the amendment to become effective, it would be necessary that the resolution be passed again in 1925 and then approved by the voters of the state.

Special assessments were used to finance,[1] in whole or in part, the following improvements or work:

1. Opening of streets
2. First permanent paving of streets
3. Paving, repaving, and repairing of sidewalks or footways
4. Setting, resetting, and repairing of curbs
5. Construction of sewers
6. Laying of water pipe

Philadelphia could not levy special assessments for the paving of streets other than the first permanent paving, nor for parks, playgrounds, parkways, boulevards, bridges, or transit improvements; nor could it use assessed valuation, superficial area, or proximity zones as a basis for special assessments. The constitution of Pennsylvania, as interpreted by the courts, did not permit special assessments to be levied against any but abutting property.

When a street was opened, the damages and benefits to abutting property were determined by a board of view of three members,

[1] Some aspects of city finances are described in the following quotations:

Municipal revenues. Municipal revenues are the moneys and other wealth received by or placed to the credit of cities and other municipalities for governmental purposes that increase their assets without increasing their debt liabilities, or that decrease their debt liabilities without decreasing their assets. The aggregate of these moneys and other wealth constitutes the *revenue* of the municipality, while the portion of such wealth derived from a single source, as poll taxes, fines, or fees, is properly spoken of as *a municipal revenue. The revenue of a municipality for a given fiscal year* is the net amount that accrues from revenue sources for that year. It includes (1) the taxes levied in accordance with the city's financial program or budget, to meet its governmental costs during that year, whether such revenues are recorded on the tax lists in that or some other year; (2) the special assessments whose levies are authorized for the given year or otherwise made legally available for use during that year; (3) the revenues earned during the year by the operation of public service enterprises, the management of public properties and investments, the loaning of money and leasing of properties, and the performance of services; (4) revenues like subventions, which are legally due and receivable during the year; and (5) other amounts received or placed to the credit of the municipality during the year, that increased its assets without increasing its liabilities or that decreased its liabilities without also decreasing its assets.

Classification of taxes. In enacting revenues under the sovereign power of taxation as above set forth, governments may levy and collect the same (1) without reference to any actual or assumed measurable benefits conferred upon or services performed for the taxpayer, or any actual or assumed burdens imposed upon the general public by the subject or object of taxation; (2) with reference to some actual or assumed measurable benefit conferred upon or

appointed for the particular project by a court of common pleas of Philadelphia county from among the members of the board of viewers (nine members) of Philadelphia county. Damages and benefits were determined from inspection of the properties involved and consideration of all evidence presented bearing on the question. Under the law, the total benefits assessed in respect of a given project could not exceed the total damages awarded in connection with that project. Only rarely was a benefit assessed against a property in excess of the damages awarded for the same property. The city or any party in interest could appeal to the courts from an award or assessment made by a board of view.

Substantially the same procedure applied also to the laying out, grading, altering, widening, vacating, or constructing of roads, streets, highways, and bridges, or for the condemnation or appropriation of land by the city or any public authority or private corporation exercising the power of eminent domain.

The first "permanent" paving of a street usually was financed by giving the contractor (*a*) assessment bills against the owners of the abutting properties for that portion of the cost which those owners were required to meet, and (*b*) cash for the city's share of the cost. The city paid for paving street intersections and,

services performed for the taxpayer, including actual or assumed measurable increase in the value of his property; (3) with reference to some actual or assumed expense or burden imposed upon the general community by reason of the subject or object of taxation; or (4) with reference to some actual or assumed violation of law.

Special assessments. Special assessments are general proportional contributions of wealth levied against land and collected from its owners and occupants to defray the costs of specified public improvements made, or of specified public services undertaken, in the interest of the general public. Special assessments, like taxes, are levied and collected under the sovereign power of the state, generally called taxing and police powers, but under very different conditions and subject to the application of widely different principles, as may be noted from the following comparisons based upon court decisions:

1. Taxes upon property are levied for the purpose of raising revenue (1) for meeting the general costs of government, (2) for providing for all general public needs, and (3) for other governmental purposes; and the only benefit which taxpayers in the United States at present receive is as members of organized society. The individual taxpayer is therefore poorer, in a sense, by reason of the payment. Special assessments are levied only for the purpose of providing for specified general public needs, and, in theory at least, do not leave the property owners who pay their assessments any the poorer, since they are fully compensated by the benefits conferred upon them by the improvements or by the services for which the assessments are levied.

2. Taxes may be levied upon personal as well as real property, and upon person, business, occupation, franchise, privilege, and right; but special assessments are levied upon land alone. Department of Commerce, Bureau of the Census, *Specified Sources of Municipal Revenue,* 1917, pp. 9, 10, 11.

sometimes, for paving in front of the property of churches, charitable institutions, and so forth. The rest of the paving cost was charged against the owners of the abutting land, assessment bills being issued against those owners for their respective shares of the cost, computed at the actual contract price.

Where a branch sewer was not available, but a main sewer was, the owner of a property that was to be connected with the main sewer had, before making such connection, to pay the city an assessment equal in amount to what he would be required to pay were a branch sewer constructed in front of his property.

A property owner who constructed a sewer at his own expense, as where the city was not yet ready or able to build it, was entitled, for a period of 10 years, to the sewer frontage charges which other property owners were required to pay for connecting with that sewer. After 10 years the city collected and retained any additional frontage charges.

The procedure regarding special assessments for laying water pipes was regulated by these provisions:

> That whenever any pipes for the conveyance of water shall be laid in any of the streets or highways within the City of Philadelphia, the owners of the ground fronting upon such street shall be assessed for the expense thereof the sum of two (2) dollars for each foot of their ground fronting on such street or highway: *Provided,* That on all corner lots an allowance shall be made of one-third of the length of one of their fronts, but such allowance shall be only and always on the street or highway running at an angle with the street or highway in which pipe shall have been previously laid and paid for in full, and in no case shall the allowance exceed fifty (50) feet on any corner lot.

Assessment bills were not given contractors for laying water pipe; the city either did the work with its own employees or paid the contractor for doing the work. A property could not be connected with a water pipe until the pipe frontage charge for that property was paid.

A property owner who laid water pipe at his own expense, as where the city was not yet ready or able to lay the pipe, was entitled, for a period of 10 years, to the pipe frontage charges which other property owners were required to pay for connecting with that pipe. After 10 years the city collected and retained any additional frontage charges.

The joint resolution proposed that the state constitution be amended by adding thereto a section reading as follows:

Laws may be enacted authorizing assessments against all properties which may be especially and particularly benefited by the construction of public improvements or public utilities, or parts thereof, or facilities therefor, by the city of Philadelphia, whether or not such properties abut on such public improvements or utilities. The sums realized from such assessments shall be appropriated toward meeting the cost of such public improvements or utilities, or towards the retirement of any bonds issued for the construction of the same.

In favor of this resolution, it was argued that the passage of laws to legalize such assessments would facilitate the development of public improvements; that the principle embodied in that section was to assess for any direct special monetary increase in values caused by a public improvement, all property which was benefited, regardless of whether the property in question abutted directly on the improvement. Although an important public improvement caused a general and widely diffused increase of values over the whole community, it was stated that there was always a direct special benefit to the property actually within the sphere of influence of such a work. It was only property in that category which could be assessed under the proposed section. The assessments perhaps could be spread over a period of 10 years.

The question was one of increasing importance because of the annual increments in value which accrued to nonabutting properties from the erection of public improvements and also because Philadelphia had difficulty in finding new sources of revenue. It had been the experience of the city that, in almost every case, the opening of streets, the construction of transportation lines, the creation of parks, and other large municipal improvements, had increased greatly the value of the property in the vicinity of those improvements,[1] though the owners of those properties were subject only to the usual city tax rates on real estate, and contributed no direct financial aid for the specific improvements. The opening of Roosevelt Boulevard, which started at a point about 4¾ miles north of the City Hall and extended for about 11 miles through the northeastern part of the city, had more than doubled the assessed value of property in its vicinity. For the four years immediately preceding the opening of a subway-elevated line in

[1] That rentals obtainable in different localities and from different types of building varied substantially, was indicated by figures for residential rents. In its *Report on Residential Rents,* May 1, 1924, the National Association of Real Estate Boards, Chicago, presented the following information in regard to dwellings in Philadelphia:

(*Footnote continued on page 623*)

1908, which served West Philadelphia wards, the average annual increase in the assessed value of the property in those wards was about $9,948,000. For the four years following the opening of the subway-elevated line, the average annual increase in the assessed value of property in those wards was about $11,537,000. Most of that increment was in the section served by the line.

Those who favored the enactment of the proposed amendment argued that the inability of the city to assess owners of property not abutting on an improvement retarded the city's progress. Many contemplated improvements in built-up portions of the city could not be undertaken unless the right to assess nonabutting property was secured. The cost of those improvements was beyond the existing borrowing or tax levying possibilities of the city. Proponents of the proposed amendment showed that, under existing conditions, when an improvement which enhanced property values was made, a few property owners benefited at the expense of the taxpayers at large.

A member of the legislature in 1925 again introduced the resolution to empower Philadelphia to assess all properties for especial benefits received from public improvements.

1. How would you have voted on this question?

(*Footnote continued from page 622*)

Class of Dwellings	Cost (In dollars per room per month)		Per Cent of Rent Absorbed by Taxation	Movement of Rent
	Heated	Unheated		
Detached Single Family:				
A (Best class in most desirable locations)	.....	17.85	14	Stationary
B (Middle class in moderate locations)	.....	12.50	18	Stationary
C (Cheapest class in least desirable locations)	.....	6.00	12	Down
Semidetached Single Family:				
A	.....	16.66	19	Stationary
B	.....	11.25	17	Down
C	.....	.....	..	....
Two-Family Apartments or Flat Houses:				
A	30.00	.....	12	Stationary
B	19.00	.....	13	Stationary
C	10.00	.....	11½	Up
Three-Family Apartments or Flat Houses:				
A	30.00	.....	12	Stationary
B	19.00	.....	13	Stationary
C	10.00	.....	11½	Up
Four-Family Apartments:				
A	30.00	.....	12	Stationary
B	19.00	.....	13	Stationary
C	10.00	.....	11½	Up
Large Apartment Houses and Tenements:				
A	50.00	.....	10	Stationary
B	35.00	.....	10	Stationary
C	.....	.....	..	....
Kitchenette Apartments:				
A	52.50	.....	10	Stationary
B	47.50	.....	11	Up
C	30.00	.....	11	Up

2. Would you have favored a resolution providing that the city could tax property owners to the full extent of the increased valuations of their properties attributable to public improvements, whether the properties abutted on the improvements or not?

4. Inheritance Tax

PRIVATE ESTATE FILED FOR PROBATE

Early in 1927, Mr. Amos, president of a large manufacturing company, died; he was a widower and left, to be divided equally between his son and daughter, an estate valued at nearly $7,000,000, according to an inventory filed at a probate court in the highly developed industrial state where Mr. Amos had resided. Of the total, real estate was valued at $401,125 and personal property at $6,598,800.

The most valuable item listed was 13,000 shares of M Company stock, listed as worth $2,800,200. Other securities included in the list were shares of a national bank, valued at $790,000; International Railways of Central America, preferred, $109,500, common, $76,000; Nash Motors, preferred, $15,300, common, $73,000; the National Surety Company, New York, $24,300; 500 shares of the Ambrose Trust Company, $131,500; 1,250 shares, American Fruit Growers, $37,500.

Bond holdings included: Federal Lank Bank of Columbia, South Carolina, 5%, $154,875, 4½%, $16,080; Federal Land Bank of Louisville, Kentucky, $25,123; Federal Land Bank of New Orleans, Louisiana, $21,105; Federal Land Bank of St. Louis, Missouri, $25,125; Federal Land Bank of Springfield, Massachusetts, $103,250; City of Buenos Aires, 6½%, $23,781.25; Kingdom of Belgium, 7½%, $27,750; Federal Land Bank of Omaha, Nebraska, $25,187.50; International Railways of Central America, $35,400; Melbourne Electric Supply Company, Ltd., $26,125; United States of America first liberty loan, $504,843.75; United States Smelting, Refining & Mining Company, gold coupon notes, $100,750.

Most states, including the one where this will was probated, impose inheritance taxes in somewhat the same manner as does the Federal Government. An example of a state which does not impose inheritance taxes is Florida. That state even sought to

enjoin the Federal Government from collecting inheritance taxes in Florida. The Supreme Court of the United States, in passing upon that attempt, said in part:[1]

The State of Florida seeks leave to file a bill of complaint against the defendants, citizens of other states, to enjoin them from attempting to collect in Florida inheritance taxes imposed by Section 301 of the Revenue Act of 1926, c. 27, 44 Stat. 9, 69, 70.[2]. . . .

The complaint alleges that under the Constitution of Florida no tax on inheritances can be levied by the state or under its authority; that, by Section 301 of the act referred to, certain graduated taxes are imposed on the estates of decedents subject to the following provision:

> The tax imposed by this section shall be credited with the amount of any estate, inheritance, legacy, or succession taxes actually paid to any state or territory or the District of Columbia, in respect of any property included in the gross estate. The credit allowed by this subdivision shall not exceed 80 per centum

[1] *State of Florida* v. *Mellon, Secretary of the Treasury, et al.,* Supreme Court of the United States. Decided January 3, 1927. 47 *Supreme Court Reporter* 265.

[2] Revenue Act of 1926:

Section 301 (*a*) In lieu of the tax imposed by Title III of the Revenue Act of 1924, a tax equal to the sum of the following percentages of the value of the net estate (determined as provided in Section 303) is hereby imposed upon the transfer of the net estate of every decedent dying after the enactment of this act, whether a resident or nonresident of the United States;

1 per centum of the amount of the net estate in excess of $50,000;

2 per centum of the amount by which the net estate exceeds $50,000 and does not exceed $100,000;

3 per centum of the amount by which the net estate exceeds $100,000 and does not exceed $200,000;

4 per centum of the amount by which the net estate exceeds $200,000 and does not exceed $400,000;

. . . . [The tax rates increased up to:]

20 per centum of the amount by which the net estate exceeds $10,000,000.

In sections 302 and 303 of the act, the method of determining for tax purposes the value of the net estate may be summarized thus: The value of the gross estate should be found by taking the value at the time of death, of all property, real or personal, tangible or intangible, wherever situated, to the extent of the interest therein, at the time of death, of: the decedent and of the surviving spouse; any interest transferred at any time by decedent in contemplation of death, or over which the decendent at the date of death had the power of altering, amending, or revoking; except in case of a bona fide sale for adequate and full compensation. Other items to be included in the gross value were specified in detail.

The value of the net estate was to be computed by subtracting from the above gross value an exemption of $100,000, and the amounts of such items as the following: funeral and administration expenses, unpaid indebtedness, uninsured losses, bequests to the United States or its political subdivisions, or to charitable and other non-profit seeking corporations, but not including taxes on income received after death. Sums received from life insurance policies were not to be included in the estate for tax purposes.

For the fiscal year ended June, 1926, the Federal Government received from estate taxes, $116,041,036. *Annual Report,* Secretary of the Treasury, 1926, p. 472.

of the tax imposed by this section, and shall include only such taxes as were actually paid and credit therefor claimed within three years after the filing of the return required by Section 304.

It is further alleged that . . . . officers of the United States . . . . are seeking to enforce the provisions of Section 301; . . . . and, unless such action is restrained, it will result in the withdrawal from Florida of several million dollars per annum, and thus diminish the revenues of the state derived largely from taxation of property therein; that the state is directly interested in the matter, because it raises by taxation a sufficient amount of revenue to pay the expenses of the state government otherwise than by imposing inheritance taxes or taxes on incomes; and that the provisions of the said section constitute an invasion of the sovereign rights of the state and a direct effort on the part of Congress to coerce the state into imposing an inheritance tax and to penalize it and its property and citizens for the failure to do so.

The allegations of the bill suggest two possible grounds upon which the asserted right of complainant to invoke the jurisdiction of this court may be supported: (*a*) That the state is directly injured because the imposition of the Federal tax, in the absence of a state tax which may be credited, will cause the withdrawal of property from the state with the consequent loss to the state of subjects of taxation; and (*b*) that the citizens of the state are injured in such a way that the state may sue in their behalf as parens patriae. Neither ground is tenable.

. . . . . .

It follows that leave to file the bill of complaint must be denied. Rule discharged, and leave denied.

1. Was Mr. Amo's freedom to accumulate his estate socially desirable?

2. What policy in regard to inheritance taxes on such estates should state and Federal governments follow?

3. Why does Florida prohibit taxes on inheritances? Do the same reasons apply to Massachusetts or Illinois? Your home state?

5. Capital

Taxation policies[1]

The question is raised whether a real estate dealer is entitled to the benefits of Section 206 of the Revenue Act of 1921 and Section 208 of the Revenue Act of 1924 in computing his tax on sales of property held for more than two years. If not, information is desired as to

[1] From case on "Capital Gains and Losses," United States Treasury Department, Bureau of Internal Revenue, *Internal Revenue Bulletin, Cumulative Bulletin V-2*, July-December, 1926, pp. 109, 110.

whether he would be so privileged if the primary intent governing the purchase was that of an investment.

Section 206(*a*)6 of the Revenue Act of 1921 provides:

> The term "capital assets" as used in this section means property acquired and held by the taxpayer for profit or investment for more than two years (whether or not connected with his trade or business), but does not include property held for the personal use or consumption of the taxpayer or his family, or stock in trade of the taxpayer or other property of a kind which would properly be included in the inventory of the taxpayer if on hand at the close of the taxable year.[1]

Real property owned by real estate dealers constitutes their stock in trade, and, therefore, the profit from the sale of such property does not constitute capital gain within the meaning of Section 206 of the Revenue Act of 1921, even though the property has been held for more than two years. It should be noted that a real estate dealer is not in the position of a person carrying on an ordinary commercial or manufacturing enterprise in connection with which it is found necessary for purposes of the business to purchase additional property. In the case of real estate dealers, the land constitutes the commodity which is to be sold and dealt in.

Section 208(*a*)8 of the Revenue Act of 1924 provides:

> The term "capital assets" means property held by the taxpayer for more than two years (whether or not connected with his trade or business), but does not include stock in trade of the taxpayer or other property of a kind which would properly be included in the inventory of the taxpayer if on hand at the close of the taxable year, or property held by the taxpayer primarily for sale in the course of his trade or business.

[1] In regard to proposals for laying a levy on capital as a means of paying the New Zealand war debts, a meeting of the Bank of New Zealand on June 21, 1918, said in part: ". . . . Then again what would be the practical result of a levy on capital? It would be nothing more than a penalty on thrift. The man who by dint of care and self-denial has laboriously built up a little capital out of his savings—and it must be understood that the phrase includes all degrees of capital and not merely large accumulations—is to be taxed, while the man who has spent, year after year, the whole of his income in perhaps riotous living, is to get off Scot free? Could anything be more mischievous?

"Furthermore, how is such a tax to be assessed? Are a man's cash and investments only to be taken into account, or must all his possessions be included? Surely it must be the latter, otherwise the man who has put his money into war loans would be worse off than the man who invested in pictures, pianos, or pearls, which is unthinkable. If for the purpose of this levy, houses and lands, stocks, machinery, plant, works of art, personal jewelry, motor cars, and the one hundred and one items which make up a man's estate have to be valued, when would the process be completed, and what would be the ultimate cost? Is the tax to fall only upon the present possessors of capital, and is the capitalist of tomorrow to get off scatheless? The war is being waged not merely for the benefit of the people of today, but also for the generations yet unborn, and it cannot be held to be fair or just that the capitalist of today should bear the whole or even the larger proportion of the burden." Reported in *London Economist*, September 7, 1918.

It is evident that the real property regularly bought and sold by a real estate dealer is property held primarily for sale. By the express provisions of Section 208(*a*)8 of the Revenue Act of 1924, such property could not become capital assets even if held by the taxpayer for more than two years.

However, if a dealer can establish that any of the property sold by him was held primarily for investment rather than for sale, the provisions of Section 206(*b*)[1] of the Revenue Act of 1921 and Section 208(*b*)[2] of the Revenue Act of 1924 will apply to the taxation of the profits realized from the sale thereof.

1. Is the taxation of capital gains desirable?

2. Would you favor the taxation of all capital assets in the hands of:

a) All owners?

b) Wealthy persons?

How, if at all, would you differentiate in your answer between Federal, state, and municipal taxation?

3. What would be the effect of a "capital levy" as proposed in New Zealand upon future accumulations of capital there? Would the same arguments against a capital levy hold in an old country as in a new one?

[1] In the case of any taxpayer (other than a corporation) who for any taxable year derives a capital net gain, there shall (at the election of the taxpayer) be levied, collected and paid, in lieu of the taxes imposed by sections 210 and 211 of this title [the normal and surtax rates on individual net income, as described in Footnote 1, page 50], a tax determined as follows:

"A partial tax shall first be computed upon the basis of the ordinary net income at the rates and in the manner provided in sections 210 and 211, and the total tax shall be this amount plus 12½% of the capital net gain; but if the taxpayer elects to be taxed under this section the total tax shall in no such case be less than 12½% of the total net income. The total tax thus determined shall be computed, collected, and paid in the same manner, at the same time, and subject to the same provisions of law, including penalties, as other taxes under this title."

[2] In the case of any taxpayer (other than a corporation) who for any taxable year derives a capital net gain, there shall (at the election of the taxpayer) be levied, collected, and paid, in lieu of the taxes imposed by sections 210 and 211 of this title, a tax determined as follows:

"A partial tax shall first be computed upon the basis of the ordinary net income at the rates and in the manner provided in sections 210 and 211, and the total tax shall be this amount plus 12½% of the capital net gain."

XXXVIII

SOCIALISM AND CHANGES IN THE SOCIAL ORDER

Bye, 482-500; Clay, 355-388, 401-417; Edie, 144-148, 172-173, 442-463, 769-793; Ely, 13-15, 17-26, 533-551, 597-613; Fairchild, I, 83-93, II, 273-298, 623-648; Gide, 451-508, 525-539, 649-657; Marshall, 712-722, 750-753; Rufener, 694-722, 800-824; Seager, 657-690; Seligman, 125-138, 163-172, 612-626, 669-693; Taussig, I, 92-105, II, 253-278, 464-502.

1. Samuel Dennis[1]

STATE AID TO PROMOTE MANUFACTURE

To the Honorable General Assembly (Connecticut)

The memorial of Samuel Dennis, of New Haven, humbly showeth:

That he is acquainted with the potter's business, and is about to erect a stone pottery; and there is in this country a plenty of clay, which he presumes of the same kind with that from which the queens-ware of Staffordshire is usually made; and that he wishes to erect a pottery for the purpose of manufacturing the finer kinds of ware usually made in Staffordshire, particularly the queens-ware; that the expense of this undertaking, of procuring the requisite information, and the workmen acquainted with the business, is too great for his property. Your memorialist conceives that the public would be so greatly benefited by a work of this nature, and particularly by obtaining and diffusing the knowledge of the business, that your honors will readily afford him some assistance. The manufacturing of those articles would be attended with not only the advantage of saving the expense in the country, but would probably, in a short time, very greatly reduce the price of them, as they now come to the consumer at two or three times the original cost, by reason of the high freight and other charges. Your memorialist thinks, that by the aid of £250 or £300, he could complete the business, and he would give sufficient security to lay out the money for the aforesaid purpose, and to repay the sum within three years. Your memorialist,

[1] *Report of the Commissioner of Patents, for the Year 1850,* House of Representatives, Ex. Doc., No. 32, pp. 446-447.

therefore, prays your honors to loan him that sum without interest, for said three years, on those conditions, &c.

SAMUEL DENNIS

New Haven, October 9, 1789

What action should the assembly have taken in regard to this petition?

2. THE ONEIDA COMMUNITY, LTD.[1]

LABOR POLICY

The Oneida Community, Ltd., maker of plated silver tableware, is a business corporation with capital and surplus of $7,851,323 and a working force of 2,000 operatives. The factory buildings are situated at Sherrill, in central New York, in a country of small villages and fertile rolling farm land. They lie at the edge of the trim and pleasant settlement in which the workers live. Just over a mile beyond live the managers in a group of houses clustered about the Mansion, or the Big House, as its country neighbors still call it, the seat of the old Oneida Community.

The Oneida Community, as students of our social history will recall, was the rare, possibly the unique, instance of a group devoted to the experiment of communistic living who made a business success. Its lineal descendant, the present business corporation, inherits a double tradition of commercial efficiency and shared prosperity. The present paper attempts to show how the company has developed this tradition.

When the community broke up in 1880, the business consisted of five enterprises; namely, the making of spool silk, traps, chains, canned fruit, and silverware. These enterprises were organized as a stock company with its shares distributed among the former members according to a plan which took into account both the years of service and the goods and money each had brought to the community. To each member for each year of service was issued one share of stock with the par value of $100, together with an amount of stock equal to one-half his contribution to the common property. In the years immediately succeeding the dissolution, many families sold their stock and moved away. Had any group been able to buy up a majority interest, it is possible that an ordinary commercial company might have developed. But the group of young people who had been born into the community, who had been brought up in the Children's House, as the communal nursery and school were called, responded to an unusual set of impulses. This younger generation came to have an active part in the business about 1895, when, under the leadership of Mr. Pierrepont Noyes, still president

[1] Esther Lowenthal, "The Labor Policy of the Oneida Community, Ltd.," in the *Journal of Political Economy*, February, 1927; The University of Chicago Press. Reprinted by permission.

of the company, a new development of the institution began. Mr. Noyes resolved to preserve the group and to transmute its broken ideal of complete equality to a less strained and difficult way of life, but one which should, nevertheless, preserve a substantial amount of the old spirit. It was resolved that the consolidation of holdings should cease; that no family should own more than 3% of the stock. The executives of the company limited their salaries to modest sums, far below the market rate for their services. Under these provisions, although the group had divided into family units and communism was dead, there was no chance for great inequality of fortune. The enforcement of the common rule backed by the discipline and religious sanctions of community days had gone; the period of dissension was passing; there arose a spontaneous loyalty to the company, in the belief that the prosperity of each must come through the progress of the whole.

Even in the days of strict communistic living, the Oneida Community had had business dealings with the unregenerate individualistic world; they had sold in a competitive market and they had hired labor. The wage earners had been engaged in the ordinary way and paid an ordinary wage. But this wage had been liberal according to the standards of the countryside. The incomes, moreover, of the owning group had been small; its members had frequently worked with the men, and a friendly comradeship had resulted. When the Community became a limited company, the same spirit carried over. As the company grew prosperous, the managers saw to it that the workers shared in the prosperity. In the course of time, however, the growth in numbers made a system necessary, and the company set about the formulation of a labor policy. It is, of course, apparent that the obligation—or, it may be considered, the opportunity—of a country factory is greater, to those who are inclined to use it, than could be that of a factory situated in a city. The Oneida Community, Ltd., was inclined to see its relationship to its workers in its widest aspects. Its labor policy consists, therefore, not only of good wages and good working conditions, but of arrangements for a good community life. As the foundation of a worker's life must be his wage, I shall deal first with that phase of the question.

The wage policy of the company has been so much affected by the war that it seems best to set it forth as a narrative of war experience and after-war adjustments. Possibly it was their own low salaries which made the executives so soon aware of what rising prices meant to fixed incomes. At any rate, as early as January, 1917, they established a bonus wage. The bonus was not amalgamated with the regular wage, but was paid in a special envelope bearing the legend, "The High-Cost-of-Living Wage." It was based on Bradstreet's index; whenever Bradstreet showed 20 points' advance in prices, the worker received 1% addition to his weekly wage. In choosing a wholesale price index, the company deliberately gave the worker the benefit of the lag of retail prices. The separate payment

of the bonus seemed to provide the machinery for a continuing adjustment of wages to prices, for obviously it would work as well for a falling as for a rising market. Here was a device for avoiding the friction of a reduction of wages, but the company chose to cast it aside. In November, 1920, at the peak of prices, it abandoned the 2 pay-envelopes, added the bonus (at that time 50%) to the weekly wage, and established this sum as the standard rate. This high wage, it is not surprising to learn, proved a severe handicap when the market broke in 1921. So great was the falling off of sales in that year, when the war boom finally collapsed, that the management had to face the question of closing the works. Their action can best be described in the words of the general manager:

> We worked four days a week early in the year; finally three days a week with a four weeks' shutdown. The shutdown was not all at one time, but was sandwiched in so as to keep some wages going to the men. In other words, we stuck by the employees; didn't fire them; and made more goods than we sold, all at a loss, for, in my opinion, unemployment is the greatest factor in labor unrest. Necessity forced many concerns to let some even of the older employees walk the streets. Necessity dictated the same course for us, but we stood it off.

They "stood off" unemployment and they maintained rates, but at such cost that by autumn it became necessary to take drastic action. President Noyes called all the employees to a meeting and told them of the losses. He asked them to understand that their continued employment was bound up with the financial soundness of the company, and explained that the increase of wages by the addition of the bonus had been an unwise policy. It had been sharing profits before the profits had been earned. Would the men accept, he asked, a 33% reduction in wages and the promise that profits would be shared with them if any were earned? And this proposal, I am told, received the greatest hand clap in the history of the company.

The promise to share profits took shape in what is called the "contingent wage." The total of the contingent wage is one-half of the earnings of the company after paying taxes and preferred dividends and 7% on the common stock and surplus. One-quarter of the total contingent wage is paid to the employees in proportion to their regular wages, and three-quarters on the basis of their service wages (to be explained below). The contingent wage is paid at the end of the business year and to all who have shared in the work of the year, regardless of whether they are still in the employment of the company at the period of payment. The sums so far distributed as contingent wage have been, for 1922, $300,000; 1923, $490,000; 1924, $164,000; 1925, $221,000. Thus profit sharing was established as the result of the company's attempt to save its men from the losses of a war-time market. Since the men have been given an

interest in final results, that is, in profits, it has been observed that they are more careful in the use of material, more sparing in the use of heat and light, less destructive generally. The closest observer of the workers reports that this system has fostered thrift for the men personally as well as for the company; that the contingent wage is usually saved. It is certainly true of Americans, if not of all nationalities, that it is easier to bank considerable sums than to accumulate small parings from the weekly earnings.

The service wage was instituted in 1918. It is an increase in the wage rate with increase in the length of service. After a man has worked 3 months with the Oneida Community, Ltd., he receives an additional 1% of his weekly wage, listed on his pay envelope as "service wage." The service wage increases, as is shown in the following table, till at the end of 20 years it amounts to 12% of the weekly wage:

	Percentage of Weekly Wage
After 3 months	1
After 6 months	2
After 9 months	3
After 12 months	5
After 2 years	7
After 3 years	8
After 4 years	9
After 5 years	10
After 10 years	11
After 20 years	12

The contingent and the service bonuses together add, on the average, 17% to the base wage; the nature of the service wage so distributes this increase that the older men get an average increase of 22%.[1]

The service wage is the Oneida Community's solution of the problem of the labor turnover. The company's withdrawals are negligible; the actual figures for the past three years are as follows:

	Percentage
1922	15
1923	9.15
1924	7.75
1925	8.30*

*These turnover figures are, of course, very low as compared with the average for industry as a whole. Investigations by Brissenden and by Frankel and by Slichter indicate that 100% was the average rate of turnover during the prewar period, while 200% seems to have been the average during the period 1918-1919.

It has a "live" file of applications for work numbering 2,000 names; it has the picked laborers of 100 square miles of countryside. Neighboring employers may, in self-defense, have to adopt some of these good habits, even though the contagiousness of its good habits is

[1] This is an extremely high rate of dividend as compared with most profit-sharing plans. In 1916 over one-half of the plants which had profit-sharing plans paid profit dividends which amounted to less than 6% of the pay roll; 20% paid dividends of from 6% to 8%; and only 18% paid dividends of more than 15%. (See Bulletin 208, U.S. Bureau of Labor Statistics, *Profit Sharing in the United States*, p. 20.)

limited by the company's growth. The company's general manager is enthusiastic over the service wage. To him it seems not only a good habit, but good business, bringing a full return in the reduction of losses from imperfect goods and in an added speed which arises from the continuing cooperation of the same workers. In addition to this almost measurable business return it has a good effect on that subtle thing, the spirit of the men. It removes a grievance older workers sometimes feel when no recognition is given for loyalty and service, "and when times are poor and no advances can be made, the service wage automatically gives an increase in pay and the world isn't so dull after all."

In describing the contingent and service wages, the more unusual features of the company's arrangements, I have neglected to note the character of the standard rate. It is, wherever it has been possible to establish it, a piece wage at rates slightly higher than those prevailing in the silverware industry or in the neighborhood of Oneida. I am told that one of the slogans in the labor office is: "Before profit sharing, pay good wages." Part of the "good wages," it must be noted, is an annual week's holiday with pay.

It may be thought that the wages paid by a business are paid to the men in the works, but this was not the whole truth at the Oneida Community, Ltd., during the war. The company paid into the bank accounts of all single men drafted for service one-half of the difference between army pay and their average standard wage increased by the high-cost-of-living bonus. To the families of married men it paid the whole of such difference. The general manager, rather a labor enthusiast, maintains that this was not a gift to the men nor a cost to the company, for it all came back to the business in increased loyalty and good feeling. But this, it hardly needs pointing out, is not an accountant's notion of costs and returns.

The employee of the Oneida Community, Ltd., has, to resume, a high standard wage, a service wage, a share in profits, and a week's holiday with pay. The management would like to provide, in addition, continuous employment. I have pointed out that in 1920 the company was willing to suffer a certain amount of loss for this ideal, but losses in a business are self-limiting. The company is now making an effort to regularize the volume of business through the year by attempting to forecast sales. If it succeeds in this, it will have eliminated at least the seasonal variation of employment and have made an important contribution toward the solution of a most difficult problem.

The company adheres to what I believe is a rather unusual rule in regard to promotion: it never puts in an outsider at the top. All the men work up through the ranks. This does not mean that the administrative force is recruited from the factory—though some men have left the machine for the desk—but that advancement lies through the grades of each department. By this means every man

has an incentive to do his best, and a sense of justice and a cheerful hope of getting on prevail.

The company has done something toward converting its wage earners into partners by offering them the chance to purchase stock. Originally this offer embraced only the executives. In 1917 it was enlarged to include all employees, who were given the opportunity to buy a limited amount of stock on an option plan under which the company had the right of repurchase when the owner died or left its employment. This plan operated successfully until 1921, when hard times forced so many of the younger men to sell their stock back to the company that it seemed wise to limit the offer to men of 10 years' service. At present any employee of 10 years' standing may purchase 8 shares of stock a year. The company no longer retains the option or the obligation to repurchase. Additional stock is made available for distribution to executives, salesmen, and factory managers at the discretion of the board of directors. More than one-half of the employees have become stockholders, and as such their interest in good work, roused by the contingent wage, must be further stimulated. The manual workers own 10% of the stock; the executives, salesmen, foremen, own an additional 73%.

It may be asked whether the wage earners at the Oneida Community, Ltd., who share in its profits and ownership also share in management. They do not, it must be said at once, if by management is meant control of business policy. The company is willing to have the men deal with working conditions, but that is a different affair. And, as a matter of fact, the men have never asked for any formal arrangements; they find it more natural to approach the management in a simple man-to-man fashion. It may well be—and I think the origin of the Whitley councils points that way—that where the demand for democratic controls arises, there have been grievances and unrest. Where good will exists, a bill of rights is unnecessary, for it is a false analogy which finds a warrant for the democratic control of industry in the necessities of political life. The directors of the company know, as does anyone who considers the problem seriously, that the kind of responsibility, intelligence, and technical knowledge required to run a highly competitive business cannot be supplied as extra service by men engaged in manual work. One may say of the descendants of the Community that they have tested the rule of equality by a long experience and know its possibilities and limitations.

In 1917 the company decided to move its silverware factory from Niagara Falls to Sherrill, where its trap factory, since sold, already stood. This meant that it undertook to turn a hamlet into a town, or, as it has since become, a city, the smallest in New York State. It meant also that it had to move its labor force or find a new one. How many companies would have found it possible to persuade several hundred men and their families to leave the bustling excitement and cheap pleasures of an excursionist city for the quiet of a pastoral countryside; to agree to move to a town not yet created? The Oneida

Community, Ltd., did persuade its men; it built a town and a factory. When all was ready at Sherrill, a special train carried the men, their families, their household goods, and the machinery some 200 miles eastward. One week after the doors of the factory closed at the Falls, the factory at Sherrill was running full time.

The town the company had built has at its center large recreation fields; it has broad streets planted with trees; it has school buildings and an endowed library. The houses are of the small, detached type built of wood or stucco, each standing on its own plot of ground. The town was, to begin with, company owned, but under encouragement the men soon bought their own houses. When more houses were needed, the company assisted the men to undertake the building, and under the supervision of a skilled architect, whose services the company furnished, the new houses have grown in charm and variety.

The help the company offers to home builders is substantial. If a man shows that he has saved 10% of the estimated cost of a house, the company sells him improved land at $7.50 a front foot and undertakes to arrange the financing. Usually the banks at Oneida, the nearest city, advance money on a first mortgage; the company itself, on a second. The worker pays off the mortgages in 12 annual installments, and when his house is finished, receives from the company $200 as special bonus, a substantial part of the price of the land. The company has not only provided the worker with extremely cheap land, but has enabled him to secure money at the best rates and the advice and services of an architect without cost.

The Community Associated Clubs is the organization which looks after the general welfare and the social activities of the workers. All of the employees have joined. The dues are $10 a year, and the company pays into the club treasury a sum equal to the total dues collected.

The club's most beneficial work probably lies in its insurance department. All members under 65 years of age are covered by group insurance, ranging from $500 to $2,500, depending on the length of continuous service with the company, whether they are married or single, number of children, and so forth. Members over 65 years are covered by an annuity policy.

Sickness is also covered by insurance under the following plan: $5 a week for the first week; $10 a week for the next 12 weeks; $5 a week for the next 13 weeks; $3.75 a week for the next 26 weeks; $2.50 a week for life, if totally disabled.

Second in interest to insurance is the retail cooperative store which, up to the present, has constituted the entire "business district" of Sherrill. The store has apparently provided good quality at low prices, but little range or variety in stock. The frustrated shopper has complained until the stores committee has had to face the issue. The committee was undecided, at last report, whether to advise an enlarged cooperative or the entrance of outside competitive merchants.[1]

[1] Since the foregoing was written several outside merchants have established themselves at Sherrill.

The other activities of the Community Associated Clubs can be most briefly shown by a list of its committees: Rod and Gun, Fish Stocking, Game Propagation, Game Refuge and Reforestation, Trap Shooting, Indoor Rifle Range, Bowling, Rugby Football, Basketball, Soccer, Golf, Tennis, Horseshoe Pitching, Roller Skating, Camera Club, Cards, Entertainments, Family Park, Restaurant, Bugle Band, Moving Pictures, General Education, and the sad, necessary final committee, Finance. The women employed by the company have a separate division under the Community Associated Clubs with special committees of their own, including one on Dramatics.

When I read over this list I feel convinced that Sherrill must have the largest number of committees per capita on record. Many committees, said one of the philosophers of the company, mean many people exercising powers not called for in the factory routine; the more offices, the more happy people. This may point to a very important truth about "the humanizing of industry." Is it not confusing issues to expect the factory to provide all the values of life, and is not the error of the impatient sentimentalist that he forgets that the working day is only one part of the 24 hours? Let him be content if the factory provides the worker with more leisure and more means to enjoy it. When the short working day and high wages prevail, the humanizing of life may result, and we may cease to complain that the factory is not also the forum, the academy, and the playing fields. The list of committees suggests also that here some one with a rare kind of imagination has been at work, some one who wishes to explore to the full the pleasures of cooperation and who has seen the teeming opportunities of country life. And how satisfactory it is to see stream stocking and game propagation receive attention as well as hunting and fishing!

The final act of generosity on the part of the company is its contribution to taxes. The company pays into the school fund a sum equal to what the town collects. So the little town of Sherrill, with 2,500 inhabitants, has a high school equipped according to the most modern requirements, with a well-trained staff able to prepare students for the college entrance examinations.

In 1915, when the factories of most of the firm's competitors were closed by a strike, a trade-union organizer was sent to Sherrill by the silver workers (at that time the union bore the descriptive, if not catchy, name of Metal Polishers, Buffers, Platers, Brass and Silver Workers' Union of North America). A letter this organizer sent back to the strikers was read at a mass meeting and reported in the *Meriden Daily Journal* of November 3, from which I quote:

> I have investigated the Oneida Community, Ltd., silverware factory with the following results: I find this company is perfectly independent of any affiliation with any of the manufacturers' organizations, either in their own line or any other. They work their men short hours, give them good pay, and treat them like

human beings. Consequently there is the best of good will between the employer and the employee. . . . .

The employees seem to be perfectly satisfied with things as they are in the factory. Therefore, I do not believe that any successful organization could be formed among them. . . . .

In fact, the company makes a study of its employees in order to give them every opportunity of having good, clean amusements and all kinds of athletics, picture shows, lectures, bowling, baseball, football, and, in fact, all kinds of outside and inside athletics and amusements that are good for any normal person.

These are a few of the reasons for the contentment of the employees of this company. I could go on and enumerate a great many more, but I believe enough has been said to convince you that this company is different from any company you have ever heard of in their treatment of their employees. It is not done for advertising purposes, as a great many of our corporations do, but is simply a business policy carried out by men who put the man and woman ahead of the dollar.

The impressions of this organizer make one realize what, although obvious, one has been prone to forget in the dust of conflict in which labor questions are commonly examined: that a trade union is not an end, but a means. A union is a kind of committee for securing a good bargain from the employer, and it is therefore, the one committee which does not exist at Sherrill.

It remains to ask what may be learned by other business organizations from this record. What is the source of the sums given to welfare work, to schools, to the men at the front? Are the contingent and the service wages presented to the men or earned by them? It can be said at once that the Oneida Community, Ltd., is a successful business from the profit-making point of view; it has paid an average of 7% on common stock for a period of 25 years; it has paid during this time 3 stock dividends of 100% each. That it is a highly competitive business eliminates monopoly profits as the source of the extra payments. There remains, as possible explanation, the policy of low executive salaries. This, perhaps, makes possible such payments as the $24,000 given annually to the Community Associated Clubs, the sums contributed to the school fund, and sums spent on the improvement of Sherrill. Does it account also for the service and contingent wages? Comparative figures—not available, alas!—of what corporations with similar capital do ordinarily pay for management might help answer the question, but there would still be differences in profits to account for. It seems only reasonable to assume that the company does get a net return from its labor policy in low waste, in extra speed, and in frictionless running. Perhaps some statistician could reduce to figures the cost of the average labor turnover of a working force of 2,000 men and say that the service wage creates such a sum for the Oneida Community, Ltd. Even without such an estimate, the mere statement of the low labor turnover might seem to many a

harassed executive a sufficient business reason for the service wage and even for the creation of those impalpable things, understanding and good feeling.

The final impression of the Oneida Community, Ltd., as a business unit is that it is in a class by itself. It is hard to say how much certain special causes may account for its special character. It should perhaps have been stated earlier that its workers are, with few exceptions, of indigenous American stock; the only recent immigrants are English and Scotch, of whom there are an increasing number. By far the greater number of the executive staff, as now constituted, are descendants of the community where, for 30 years, men and women submitted themselves to a religious discipline so severe and so selective as to seem the sufficient cause of the present unity of purpose and outlook. Another special element of survival is the existence of mutual good will, a fraternal spirit so attractive that men who would elsewhere have entered professions are here cooperating in a business enterprise. When one takes into account the special inheritance and the special type of man, one may wonder whether the present spirit of the Oneida Community, Ltd., will survive the generation of its creators. On the side of hope, it may be reported that up to date idealism and business acumen have kept pace.

1. Is it probable that organizations of this type will come to dominate industry in the United States?

2. Is such a development desirable?

3. Wherein does this business corporation differ from other business corporations?

4. Was the 1921 policy a wise one? Would it have been followed in other business enterprises? Are the extra payments received under the "contingent wage" agreement wages or profits?

3. Russia[1]

EXPERIMENTS WITH SOCIALISM

War Communism

Under war communism the whole administration of industry was officially organized under 59 Head Centers, which again were under the Supreme Economic Council. This so-called régime of the Head Centers (glavi) was mainly occupied with supporting the war fronts against foreign invasions and "White" incursions and with supplying the immediate needs of the population from old stocks. Most of the skilled workers were in the ranks, and until peace no effort could be

[1] *Russia Today*. The official report of the British Trade Union Delegation, 1925; p. 72 et seq., International Publishers Company, New York. Reprinted here, in part, by permission.

made to revive industry. Production fell, until in 1920 coal was 27% of pre-war; salt 30%; ore 2¼%; engines and ploughs about 14%; while the total production fell from six and three-quarters milliards to one milliard. But this war communist system of "glavi" that had brought the Revolution through a series of wars, any one of which would have overthrown a less strong and stable war administration, soon showed that it was unsuitable to peace conditions. Indeed, it became clear that Russian economics were in a vicious circle. Industry could not produce because the agricultural population could not buy; which, again, was because they could not get industrial products, ploughs, engines, and so forth. Moreover, the attempt to supply the industrial population by forcibly requisitioning food supplies from the peasantry had led to what was practically a new civil war between the workers and peasants, and the peasants had consequently curtailed production until it was sufficient only to meet their own needs.

The failure of war communism when at its height in 1920 was due to its artificiality. While it professed to be revolutionizing the political system into a more real relationship with economics, it was really trying to revolutionize the principles of economics so as to reconcile them with its own political ethics. Russian communism was at war with capitalism, and in war the laws of economics, like other laws, can be ignored for a time. It is the last and greatest achievement of the Russian Revolution to have recognized, as it did in 1921, that this war was being prolonged at a progressive risk to the real results of the Revolution.

Various alarming symptoms, such as the growing armed resistance of the peasants to requisitions, the Cronstadt Revolt, and the growing demoralization of the workers, made it necessary to abandon the communist experiment and reestablish a business relation on which the existence of the Soviet system depends. This required, in the first place, a substitution of taxation of the peasantry for requisitions, and, in the second place, a restoration of freedom of trade in foodstuffs and the products of small industry.

Russia made peace with the enemy within the gate in time. The subsequent three years under this socialist compromise, known as the New Economic Policy, show results in material prosperity and in moral progress very different from those of the preceding three years of uncompromising war communism.

New Economic Policy of Nationalization

The first measure of the New Economic Policy did practically, though not in principle, denationalize the conduct though not the control of industry.

The nationalization of industry had been, in fact, much less systematic and sweeping than is generally supposed. "Workers' Control" established November 14, 1917, was followed by confiscation of certain enterprises, but it was not until the decree of June 28, 1918, that the large industries were generally nationalized. Smaller industries were

still dealt with only specifically and sporadically until the height of war communism, when by a decree of November 29, 1920, all enterprises employing more than 5 workers with machinery, or 10 without, were nationalized and private property in small industry was legally abolished. But this last development was never generally realized and was almost immediately reversed by the New Economic Policy. The smallest enterprises up to 20 workers were first denationalized by a decree of December 10, 1921, which also left under private control any larger enterprises not already nationalized. Further, under the decree of March 22, 1923, the exploitation of enterprises of any size might be denationalized for a period by concessions.

The small industries and home handicrafts (Kustarni) were as a whole never really nationalized at all, though the decree of September 7, 1920, attempted to do so. Their freedom of trade was restored them by a decision of May 17, 1921, and was formally regulated by a decree of July 7, 1921. Therein small industries are defined as those which employ less than 20, and no one may engage in more than one enterprise.

Trusts and Syndicates

The New Economic Policy restored not only the fundamental right of private enterprise, but also reerected on it somewhat similar superstructures to those that have grown up in other countries, such as trusts, syndicates, and banks. These were reproduced in Russia as state organizations operating on a self-governing and self-supporting basis. In other words, "big business" and "high finance" in Russia are both under direct government control, and do not, as elsewhere, indirectly control the government. In some cases, as in the "Mixed Companies," in which public and private capital participate, new forms have been created. And in all cases care must be taken not to confuse these trusts and syndicates, which are a development of nationalization on a business basis, with European trusts and syndicates. The Russians, first, under war communism nationalized all commerce and industry, and then, under the New Economic Policy denationalized all that was without direct national importance but "socialized" big business and high finance. With us private enterprise is preparing nationalization from a business basis by organizing industry on national lines. In Russia the Revolution is reconstructing a nationalized industry and commerce on a business basis. The ultimate end will be much the same in both cases. But the present penultimate stage is very different. In Russia producers are rapidly acquiring sufficient freedom for the efficient conduct of their operations. In Europe the state is, at present, making little or no progress towards acquiring control over profiteers.

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Private Enterprise

Under the New Economic Policy private enterprise is in no way obstructed in the largest area of Russian production—that is, in agriculture, home industry, and handicrafts (Kustarni). Large mechanical

industry is nationalized, but its machinery and equipment may be practically privately owned, which obviously will cause complicated questions of ownership. All industry, national and private, is now on a business basis, but national industry is conducted and private industry in various degrees controlled in the interests of the National Economic Budget (Gosplan). National industrial enterprises can contract and even compete between themselves, but there is as yet little opportunity for such competition. On the other hand, the competition of private enterprise is encouraged in so far as it is a stimulant to the energy and efficiency of the national enterprises.

Competition of Public and Private Trading

Although under war communism private property was in principle abolished and private capital wherever possible confiscated, yet with the introduction of the New Economic Policy, private enterprise revived immediately and seemed to have all the financial resources it required. Private enterprise was indeed at first overcapitalized; and the result, combined with excessive profits, was a "boom" with all its usual accompaniments of profusion and profligacy.

Private enterprise, having succeeded somehow or other in preserving or even accumulating reserves of capital under war communism, secured a great start under the new economic system in its competition with the cooperatives and government trusts. The cooperatives were slow in reorganizing, and so private enterprise secured the greater part, in some cases the whole, of the new retail business. It may be of interest to trace the course of this competition in a representative manufacture and raw material.

In textiles, government enterprises transacted in 1922—the first year of the New Economic Policy—about 60% of all retail trade, cooperatives about 6%, and private traders 34%. In salt the proportions were: government, 33%; cooperatives, 20%; private, 47%. But this start secured by private enterprise, owing to its being quicker off its moorings, was gradually lost as the cooperatives and government trusts got under way and gained momentum. By 1923 we find the Textile Trust selling to its own Trading Syndicate 36% of its output instead of 12%; the Wool Trust 25% instead of 5%; the Linen Trust, which was left at the post, 2% instead of 3%. While the general average of output taken by private enterprise was only about 20%. . . . .

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The . . . . figures [on state, cooperative, and private trade] suggest that the cooperatives are gaining ground on private trade, with results examined in the chapter on cooperatives. Private enterprise is fulfilling the function assigned to it, of acting as pacemaker and pilot to state enterprise. For the New Economic Policy is based on the conviction that the principles of the Revolution and the predominance of the workers will be sufficiently secured if the state retains command of the bulk of the capital and credit in the country, and of its foreign commerce. Also that state enterprise can only be made efficient if put on

the same business basis as private enterprises and brought into free and fair competition with them. In this competition private enterprise opens the new fields, and, as these new fields come to be organized and operated on a large scale, state organizations gradually drive enterprise further afield again.

So far as can be judged at present, the superior economy and energy of the private trader will tell in small industry and retail trade, while government credit and cooperation will prevent any considerable control of large industry by private capital.

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Financing of Industry

By 1922-1923 industry was beginning to finance itself, and in that year state subsidies reached 123 million gold rubles. By 1923-1924 this fell to 93 million gold rubles, and the estimate for 1924-1925 is 71.9 millions. In 1922-1923 textiles were heavily subsidized, but in 1923-1924 subsidies went for metal, coal, and for electrification. Receipts from industry on the other hand have increased from 4.4 million gold rubles in 1922-1923 to an estimated 45.7 and realized 31.2 in 1923-1924, and to an estimated 61.4 in 1924-1925. Expenditure and revenue therefore in 1923-1924 leave a deficit of about 6.2 millions, and an estimated deficit of 10 millions in 1924-1925. This seems to represent the facts, though other estimates reduce the deficit in 1923-1924 to about 24 million gold rubles and show a surplus next year of 21 million gold rubles.

But a more important point than the actual financial balance is the manner in which the money is spent. The 10 millions spent on Don coal went to reducing fuel prices. The 1.7 millions spent on oil went to building pipe lines. The large sum given to the metal industry is to keep it going only. And, in general, the subsidies might with advantage probably be increased.

Industry is perpetually clamoring for credits, and the Supreme Economic Council with the help of the Gosplan does its best to give support when required. Thus the heavy metal industries desiring to increase production, without having profits enough to pay wages regularly, have been slowed down and have had to be helped. But in the interests of finance the program of general output in 1924-1925 has been reduced from 303 million poods to 273 million poods, which reduces the subsidy from 47 million gold rubles to 36 million gold rubles and additional credits from 90 million to 75 million gold rubles.

As the general state subsidy annually decreases, bank credits more than take its place. In 1922-1923, when the subsidy was 123 million gold rubles, debts to banks were 140 million gold rubles. In 1924-1925, when it was 92 million gold rubles, the bank credits for the first nine months of 1924 were 351 million gold rubles.

Increase of Industrial Production

The result of the New Economic Policy in restoring production is best expressed in the following table, and is all the more remarkable

when it is remembered that this was accomplished in spite of one famine year and with practically no help from foreign finance.

	Annual Production (In thousand rubles)	Percentage of Prewar
1912	3,489,892	100
1920	511,109	14½
1921	527,904	15
1921-22	753,633	21½
1922-23	1,127,381	32⅓
1923-24	1,490,400	42

Restoration of Agriculture

The ruin caused by the counter revolutionary campaigns, which affected the most productive regions, and the restriction of cultivation caused by the confiscation of crops under war communism brought Russian agriculture to a condition that threatened general famine. By 1920 the area under cultivation fell to 60% prewar and in 1921 to 54%. But Lenin had already been preparing Communist opinion for the necessity of a New Economic Policy. He saw that the peasant, no longer threatened with a restoration of a reactionary government that would deprive him of land itself, would no longer tolerate a revolutionary government that deprived him of the fruits of his land.

The first efforts of the government were emergency measures to deal with the catastrophic consequences of civil war and famine—such as distribution of seed corn and potatoes. These measures reached their maximum in 1922. But there is still much to do in restoring the areas devastated. So much, however, has been done, that the government outlay on agricultural restoration is now annually changing its character from that of relief and reequipment to that of reconstruction by general electrification and technical education.

The New Economic Policy was, as explained by Lenin himself, introduced with a view to putting the relations between the proletariat and peasantry again on a business footing. Requisitions were replaced by a tax on agricultural produce rated according to taxable capacity and on a basis of 10% of the gross production. And it is to be observed that under Tsardom the peasant was taxed, on an average, 30% of his production. Since the restoration of the currency, 1923-1924, this tax is paid in money.

In return, the government not only allows but aids the peasant to market his produce at the best price and uses its economic control of industry to see that the peasant gets in return for produce a fair value in goods. This is the new economic contract or clamp (smytchka) between proletariat and peasantry.

The peasant was, moreover, not only given full disposal of the fruits of his land, but the vague tenure he had held under the Land Nationalization Act is now defined in a manner entirely satisfactory to him. He is allowed to exploit his land as he pleases, to separate his holding from the community, to increase it within limits, and to hold it in per-

petuity. He can lease it for not more than six years and hire labor to work it within limits. By these and other provisions of the Land Code, the state is guarded against the redevelopment of a landlord class, and the peasant is guaranteed all the liberty he wants in using the land.

It will be seen that agriculture is being restored on conventional lines, and that the communists have had to renounce any rapid realization of their program of equalization of holdings and of communal cultivation. It is hoped that cooperation may fill the gap and give such help to the small holder and laborer as will enable them to improve their standing. The money tax, which has replaced the tithe in kind and the original right of confiscation, is moreover proportioned, like an income tax, to the means of the peasant; and holders of less than 10 dessiatines are exempt.

As a result of this reorientation there has been an immediate revival of agriculture.

A comparison of the present total cultivated area with prewar gives the following results:

Year	Area of U.S.R.R. (Millions of Dess.)
1913	97.5
1916	90.7
1922	63.5
1923	70.0
1924	75.5

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Methods of Agriculture

An investigation by an advisory delegate of conditions in the villages of the Ukraine wheat-growing area showed that nothing was now wanting but capital to produce an immense increase in production. The ruined villages and towns were again repopulated and reconstructed, and the prewar area of cultivation was being rapidly again brought under cultivation by prewar methods, which owing to primitive machinery give a very low percentage of production in Russia from soil of first-rate fertility. But the present conditions would now admit of cultivation by modern American methods. The individualism of the peasant-owner, that received a great stimulus from the distribution of land at the Revolution, is yielding to various influences. One such is the communist education in the schools, in the Red Army especially, and through the local communist "cells" and "centers." And this education in the advantages of collective production has less to contend with in Russian peasant life, which still retains much of its medieval communal character. Another powerful influence is force of circumstances. The new communities now starting in the ruined districts without other resources than their own labor, fertile land, and a few primitive tools, can only exist on a communal basis. One such community with a common table and all property in common was visited in Russian Moldavia, one of the worst ruined areas. These people were struggling to get a bare living with the help of a camel and a cow out of some of the richest land in Europe. Some of these were educated

people, and the only thing wanted to make the community not only prosperous but producing for export was a little capital or credit to get a tractor.

The tractor is itself an instrument for creating such methods of cooperative and communal farming as must be adopted if outside capital is to be obtained and used to the best advantage. Thus villages join together in special cooperatives to buy a tractor, and they then organize communal tillage to get the best use of it. One described the results somewhat thus: "We sent Peter, Paul, and Andrew to the tractor drivers' class at Odessa last winter, and this summer we got a tractor. Now, Peter sits on it and b-r-r-r-r all the morning—4 hours out and 4 hours back—Paul sits on it and b-r-r-r-r all the afternoon—4 hours out and 4 hours back—and Andrew sits on it and b-r-r-r-r all night." That is 3 furrows in the 24 hours, 8 miles long each.

Six thousand American tractors are to be delivered, mostly at Odessa, this winter; and 3,000 drivers will have been trained by this spring. The tractors plow at a rate of 5 rubles per dessiatine, whereas horse-plowing costs 80 rubles. The tractor-plowed land yields on an average 15 poods per dessiatine more. What Russia wants is tractors on as long credit as possible; and they would be a most profitable investment for countries with a surplus of capital and a deficit of food supply.

The Russian Government is doing what it can. Schemes for improving breeds, dry farming, drainage works, and irrigation are under way. The estimates for the current year assign to the financing of agriculture 62 million gold rubles, of which 35 millions go to raise the capital of the agricultural bank to 90 millions. Add to this 48 millions spent in relief and you find that most of the proceeds of the agricultural tax are being reinvested in agriculture.

The "Scissors and the Clamp"

The new Economic Policy substituted a new business relationship of free and friendly bargaining for the war communist policy of conscripting peasant labor and confiscating most of its produce. The peasant could again sell his produce and buy town products. He paid taxes and got in return the advantage of a good government. But this new contract or clamp (smytchka) between the proletariat and peasantry was hardly in working order before it was almost broken by an economic strain. This was the so-called "scissors" crisis, a symbol suggested by the ascending curve of rising prices in manufactures and the descending curve of falling prices in agricultural produce. These simple technical symbols—"scissors," "clamp," and so forth—are very illustrative of the success of the Russian leaders in giving public opinion a grasp of the economic essentials underlying political problems. Under a party system the conflicting interests of peasants and proletarians would have been exploited and exaggerated in platform slogans. The speeches on it of Rykov and Kamenev are popular lectures on economics.

The political importance of the "scissors" problem was that as the scissors opened they forced apart the "clamp." The peasants could

not pay for their necessities of life, so began again to stop producing. The state, therefore, exercised its economic control of prices and its subsidies to the cooperatives so as to reduce prices of manufactures and raise prices of agricultural produce. . . . .

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Wages

Wages Under Communism

As the nationalization of industry developed, wages came to be regulated by decree at first through the Commissariat of Labor, then under decree of June 8, 1920, through the All-Russian Central Council of Trade Unions. At this period, the height of communism, the Trade Union organization was an executive department of the government. The wage scales were fixed without regard to the value of the labor, and were paid up to 80% in kind. The money was paid by the industry; food, clothing, and so forth by the government department; housing, fuel, and so forth by the municipal department, and as these could only pay when they had supplies, the real rate of wages was never realized. The food ration was regulated for heavy workers, light workers, and nonworkers in the proportion of 4:3:2, though the latter for the most part got nothing. There were also attempts to reward extra exertion with extra rations; but these were discouraged. And supplies being deficient, these wages, or rather rations, were always irregular and generally inadequate. Therefore, like soldiers whose rations are insufficient, the Russian industrial workers deserted and fled from the towns to the villages where food could be got. This again led to conscription of labor in 1920 under rigorous conditions. Its results were entirely unsatisfactory, and it was finally repealed by decree of the Central Executive Committee of March 3, 1922.

The Fifth Congress of Trade Unions in September, 1922, recommended that wages be paid in money. This change was forced not only by material but by moral conditions. The communists could enforce a very high level of discipline and devotion in their own ranks, but they could not bring conscripted labor into line as a body. They could not even stop the nonparty and unpolitical workers from putting money in their pockets by filching immense quantities of goods and by falsifying their ration cards. For example, by 1921, though the urban population amounted only to 12 million, 22 million were drawing rations.

But with the New Economic Policy, wages, which had become little more than the pay of a rationed labor army, became again the subject of free contract, of Trade Union negotiation, and of governmental regulation. And with currency stabilization, wages in kind, already steadily in decline, began definitely to disappear. In so far as they still exist, their value is deducted from the money rate at current open-market prices.

The optimistic theory of war communism that a worker would, for an equal living wage, give his full energy, experience, and efficiency to

the public good, was not justified by the experience of the years 1918-1921. It has now given place to the plan of paying a living wage and getting the best possible production by further awards, such as piecework payment, special rates for specialists, and prospects of promotion. This plan is applied even by the Communist International to those employees, who, not being members of the party, cannot be relied on to do their best without pecuniary recognition. It is now proposed to extend the system to employees in state trading and cooperative concerns so that by paying them a percentage on their sales, their efficiency may be raised to that of the salesmen in private trade. At present in retail trade, the private tradesman, the state, and the cooperative salesmen are estimated to compare in efficiency as 118:92:89.

Wages During the Change to Money Payments

During the time when the currency was daily falling in value, food rations held a large place in wages, and money wages were reckoned in "goods" rubles on a system much like that which developed under similar conditions in Germany. At first certain industries calculated wages in terms of the rising cost of their own products; for example, in terms of a "flour ruble," a "leather ruble," and so forth. But this caused almost as great inequalities and inequities as the previous war communist practice of allowing payments to workers in the goods they produced. These methods of payment were accordingly converted into general payment in "goods rubles." A minimum budget, representing the daily needs of an average worker, was drawn up; the cost of this budget was determined, eventually, as often as four times a month; and the value of the "real" or "goods" ruble was calculated accordingly. The result was a living wage, though a very low one. For the cost was often, as in the Don Basin, fixed much lower than it really was so as to help industry back to a paying basis.

Money Payments

In May, 1923, wage rates began to be fixed as a percentage of the total minimum budget. But as soon as there was a stable gold currency (Tchervonetz), this system too began to go; and an order of the Supreme Economic Council, September 13, 1923, brought in payment of government salaries in gold rubles. It was, however, thought that to pay all workers wages at once in gold rubles would unduly burden industry and unbalance the gold ruble. Such gold payment was, therefore, brought in gradually and first made applicable to transport workers, metal workers, chemical workers, the Don Basin, and the Urals. With the exception of the Urals, there was, however, in the winter of 1923-1924, a fall of the real value of the gold ruble to 80% on an average, which called for additional bonuses. But with the spring, this last crisis, caused by the collapse of the old paper ruble, was over, and it was decided to give up the complicated calculation in goods rubles and get on as quickly as possible with payments in gold rubles, which had by then gained general confidence. There were, however,

great difficulties of detail in carrying this out. One was the want for a time of new currency of small denominations, which caused losses to the workers. This was first dealt with by temporary paper issues and then by the new metal silver and copper currency.

The want of working capital in industry still causes delays in payments, but these matter much less now that the currency is stabilized and arrears do not lose their value. They are, however, the main cause of discontent at present. Last autumn arrears were about 10 million gold rubles, but last winter they were reduced to about 3 millions. The delays seem generally to be only a week or so, though there were cases in the Don Basin of September wages not paid until November. Complaints were also made to the last Congress that too large a proportion of the wages was paid in credits for goods in the cooperatives.

Present and Prewar Wages Compared

It is almost impossible to compare wages under war communism with prewar wages or with wages at the present time. But since the return to money wages under free contract there has been a steady rise amounting from 150% to 200%; and a steep rise between October, 1922, and September, 1923, amounting to as much as 70%. The average wage in 1922 in the heavy industries was still in money little more than half the prewar wage, though this was exceeded in some cases.

The general average of wages seems now to be approaching three-quarters of prewar rates, being over half prewar in the heavy, and nearly full prewar in the light, industries. In May, 1924, the percentages were: all industries, 68.3%; food, 116.9%; paper, 103.5%; printing 98%; leather, 96%; textile, 85%; chemical, 82%; mining, 52.1%; railways, 41%; metal workers, 31.9%. In October, 1924, metal workers had been raised to 56%, railway workers to 50%, and textile to 91%. Wages in Moscow are generally 93% prewar and in Leningrad 81.6%. . . . . .

Inequalities of Wages

This difference in the rate of wages between heavy and light industry is due to the much greater difficulty in restoring heavy industry to a business basis. It works exclusively to state order and was therefore more affected by the stress of the change to a business basis. On the other hand, the light industry producing largely goods of prime necessity could at once find its home market, while private business, picking out the most profitable enterprises without regard for the general public interest and with reduced overhead charges for national purposes, could pay the best wages of all. Thus during the early period of the New Economic Policy, wages in private industry were 25% higher than in nationalized industry.

There are also still considerable differences in wages between localities and between industries. These differences have caused great dissatisfaction and cases arose, as in Yoroslav, where the Provincial Trade Union Council illegally suspended a collective agreement on that

account. This difficulty was dealt with by the state's giving more orders to heavy industry and more working capital, so enabling it to raise the lowest rates. The total of the assistance given in 1923 reached 700,000,000 gold rubles.

. . . . . .

Productivity of Labor

The productivity of Russian industry compares not unfavorably with that of Europe generally, where there has been a marked falling off in consequence of the war. Thus as the daily output of a coal miner in England was as low as 55% in 1921, and only 82% in 1922, in Russia the figure for a Don Basin coal miner was 77%.

Wages have increased more rapidly than individual output. Between 1920 and 1924, wages increased five times, but individual output only doubled. Between October, 1923, and March, 1924, wages increased 15%; but the output only 8%. Wages being now about 68%, prewar general productivity seems to be not more than about 60%.

The improvement is due to a more intensive activity. In prewar times the productivity of a British worker as compared with a Russian worker was as 1.55:1.16. The average working day was 10 hours, but working days in the year were no more than 252. In 1921, with an 8-hour day, they were 214; in 1922, 254; in 1923, 263, or 88% of the calendar working days. Allowing for the liberal leave now given by law, and the usual average for sickness, this is fairly satisfactory.

The whole power of government propaganda—and only those who have visited Russia can realize what that means—is now, and for some time has been, turned on to stimulate the worker to increase his production. A Central Institute of Work educates experts in the Taylor system and other scientific schemes for improving the human mechanism in combination with the German science of bio-mechanism. It has now a central staff of 150 instructors all over the country, and organizes an annual conference on its subject. It hopes to float a commercial company for the business promotion of its ideas and inventions. This does not arouse the opposition that it would where industry is still under private capital, as the workers realize that any resulting profits from increased production will come back into their pockets, and that their productivity will not be increased at the expense of their conditions of life.

The consequent improvement reported of late in industrial output has not been put in statistical form, but partial results seem so far satisfactory. For example, at the Krasny Putilovetz Factory and Diesel Factory, individual output now exceeds prewar, while unofficial figures return the monetary value of one worker's output in 1922-1923 at 1,078 rubles and 1923-1924 at 1,227 rubles, or 14% more.

1. During the period covered by this case, was there "public ownership" of business in Russia?

2. In the long run, should political organization adapt itself

to economic laws, or should the latter be subordinated to political organization?

3. What will be the effect, in the United States, of sales of corporate securities such as described in the case of the Bell Securities Company (page 63)?

4. From a reading of this material would you conclude that the British Trade Union Delegation was favorable to the Russian régime or unfavorable? How does your answer to this question affect your acceptance of the conclusions of the report?

5. Was the unwillingness of the peasants to continue to furnish food based only on a temporary condition?

6. Why did the ration method of wage payment fail? Would you expect that the system adopted in place of it would succeed?

7. Will propaganda increase the productivity of labor?

8. Would you want to live in a country seeking to operate as a socialistic state?

4. Burns *v.* United States[1]

CRIMINAL SYNDICALISM

Mr. Justice Butler delivered the opinion of the court.

An Act of Congress of June 2, 1920, Section 4, c. 218, 41 Stat. 731 (Comp. St. Section 5207*d*), provides that, if any offense shall be committed in the Yosemite National Park which is not prohibited by a law of the United States, the offender shall be subject to the same punishment as the laws of California prescribe for a like offense. Plaintiff in error was indicted for violating within that park the California Criminal Syndicalism Act (Chapter 188, California Statutes 1919). The indictment was in two counts. The verdict was "guilty on the first count and not guilty on the second." Plaintiff in error, by demurrer and by motion to arrest the judgment, insisted that the statute contravenes the Constitution of the United States. His contention was overruled. The case is here under Section 238 of the Judicial Code (Comp. St. Section 1215) before the amendment of February 13, 1925.

The applicable provisions follow:

> Section 1. The term "criminal syndicalism" as used in this act is hereby defined as any doctrine or precept advocating, teaching, or aiding and abetting the commission of crime, sabotage (which word is hereby defined as meaning willful and malicious physical damage or injury to physical property), or unlawful acts

[1] Argued November 24, 1926. Decided May 16, 1927. 47 *Supreme Court Reporter* 650.

of force and violence or unlawful methods of terrorism as a means of accomplishing a change in industrial ownership or control, or affecting any political change.

Section 2. Any person who . . . . organizes or assists in organizing, or is or knowingly becomes a member of, any organization, society, group or assemblage of persons organized or assembled to advocate, teach, or aid and abet criminal syndicalism, ... is guilty of a felony. . . . .

Plaintiff in error here contends that, as applied in the district court, these provisions are repugnant to the due process and equal protection clauses of the Fourteenth Amendment. The only attack upon the validity of the law was by the demurrer and motion in arrest. In each of these, he asserted that the statute "is in violation of the Fourteenth Amendment of the Constitution of the United States and is void for uncertainty." But that point is determined adversely to his contentions in *Whitney* v. *People of the State of California,* 273 U. S. ——, 47 S. Ct. 641, 71 L. Ed. ——, decided this day.

The substance of the count on which plaintiff in error was adjudged guilty is that on or about April 10, 1923, at Yosemite National Park, he did "organize, and assist in organizing, and was, is, and knowingly became a member of an organization, society, group and assemblage of persons organized and assembled to advocate, teach, aid and abet criminal syndicalism, to wit, the Industrial Workers of the World, commonly known as I. W. W."

1. Plaintiff in error argues that he is entitled to a new trial because the charge contains the following:

Now, there has been presented to you evidence . . . . to the effect that this organization, amongst other things, advocated what is known as slowing down on the job, slack or scamped work, such as loading of a ship in such a way that it took a list to port or starboard and therefore had to limp back to port, and things of that kind. I instruct you that under the definition as laid down by the legislature of California that any deliberate attempt to reduce the profits in the manner that I have described would constitute sabotage.

He calls attention to the language in Section 1 and says that merely loading telephone poles on a ship so as to occasion more work is not physical damage or injury to physical property within the meaning of the statute.

If that instruction stood alone it might be thought to permit the jury erroneously to expand the meaning of sabotage beyond that defined in the act. But it does not stand alone; and the mere comparison of the quoted language of the instruction with the words of the statute is not sufficient to disclose whether there was prejudicial error. The instruction must be taken in connection with the evidence bearing on the matter referred to and is to be considered in the light of the charge

as a whole.[1] There is no contention that plaintiff in error was not connected with the organization substantially as alleged, or that the evidence failed to show it to be the kind of organization specified in the indictment. The record shows that for a number of years he had been a member of the organization; that, at the time alleged and when arrested, he was its authorized delegate and had a quantity of its literature in his possession; that he solicited others to become members and was authorized to initiate new members and to collect initiation fees and dues. It also shows that the organization disseminated large amounts of printed matter declaring its purposes and advocating means to accomplish them. A "preamble" was contained in practically all its publications and was printed on the membership card of plaintiff in error. It declares that the working class and employing class have nothing in common; that a struggle must go on between them until the workers organize, take possession of the earth and the machinery of production and abolish the wage system; that the trade unions aid the employing class to mislead the workers into the belief that they have interests in common with their employers; that, "instead of the conservative motto, 'A fair day's wages for a fair day's work,' we must inscribe on our banner the revolutionary watchword, 'Abolition of the wage system;' " that it is the mission of the working class to do away with capitalism; that the army of production must be organized to carry on when capitalism shall have been overthrown; that "by organizing industrially we are forming the structure of the new society within the shell of the old."

Sabotage, as the evidence indicates it to have been advocated and taught by the organization, is not confined, as is the definition contained in the act, to physical damage and injury to physical property. The organization's printed matter that was received in evidence contains no precise definition of sabotage, but does give a number of descriptive explanations of what it means. As fairly illustrative, we take the following:

> Three versions are given of the source of the word. The one best known is that a striking French weaver cast his wooden shoe —called a "sabot"—into the delicate mechanism of the loom upon leaving the mill. The confusion that resulted, acting to the workers' benefit, brought to the front a line of tactics that took the name of sabotage. Slow work is also said to be at the basis of the word, the idea being that wooden shoes are clumsy and so prevent quick action on the part of the workers. The third idea is that sabotage is coined from the slang term that means "putting the boots" to the employers by striking directly at their profits without leaving the job. The derivation, however, is unimportant. It is

[1] *New York Cent. & H. R. R. Co.* v. *United States*, 212 U. S. 500, 508, 29 S. Ct. 309, 53 L. Ed. 624; *Hotema* v. *United States*, 186 U. S. 413, 416, 22 S. Ct. 895, 46 L. Ed. 1225; *C. M. Spring Drug Co.* v. *United States* (C.C.A.) 12 F. (2d) 852, 856; *People* v. *Scott*, 6 Mich. 287, 291.

the thing itself that causes commotion among employers and politicians alike.

The evidence shows that the organization advocated, taught, and aided various acts of "sabotage" that are plainly within the meaning of that word as defined by the act. Some examples are: Injuring machinery when employed to use it, putting emery dust in lubricating oil, damaging materials when using them in manufacture or otherwise, scattering foul seed in fields, driving tacks and nails in grape vines and fruit trees to kill them, using acid to destroy guy wires holding up the poles provided to support growing vines, putting pieces of wire and the like among vines to destroy machines used to gather crops, scattering matches and using chemicals to start fires to destroy property of employers. One of the witnesses testified:

> I heard . . . . a member of the I. W. W., say in a speech on May 10, 1923: "When you go back to work, if we do have to go to work, we will put on the wooden shoe." Then he said: "In case you are loading telephone poles on a ship down there, sometime the boss is not looking you can slip a couple of poles crossways and then cover up, and then when that ship goes to sea naturally she will start rolling and the cargo will shift, and then she will come in listed like the one you see out in the harbor, then she has got to tie up to the dock, and she will have to unload the telephone poles and put them in again and put them straight, and then we will get paid for the loading originally, and get paid for unloading it and get pay for loading it again, and that will hit the bosses hard in the pocketbook."

The foregoing sufficiently shows the foundation of fact for the portion of the charge complained of. Before giving that instruction, the court warned the jury that the government must establish beyond reasonable doubt that the I. W. W. was such an organization as is denounced by the act. The definition of criminal syndicalism was given the jury in the exact words of the statute. The court then gave a number of lexicographers' definitions of sabotage. They are broader than the meaning of the word as defined in the act and are not confined to physical damage or injury to physical property. Then, by way of contrast, the statutory definition of sabotage was repeated, and by the repetition it was emphasized. The court said:

> The statute itself, you will notice, however, denounces sabotage as meaning willful and malicious physical damage or injury to physical property.

The instruction complained of followed. It referred to the evidence indicating that the organization advocated acts such as loading a ship so that it would list and have to return, and things of that kind. And in that connection the court said that any deliberate attempt to reduce profits "in the manner that I have described" would constitute sabotage.

The language excepted to was followed by an instruction containing this:

> If you find, therefore, that this organization advocated sabotage, or any other criminal matters mentioned in the section that I have read, either for the purpose of bringing about a change in industrial control, or a political change, then it would constitute criminal syndicalism.

While one of the purposes of such improper loading of ships may be to create more work for the men, and so to inflict loss on employers, it is also plainly calculated to endanger the vessels, their cargoes, and the lives of those aboard. By the instruction complained of the consideration of the jury was limited to "things of that kind." The advocating of the malicious commission of such acts is to teach and abet sabotage —physical damage and injury to physical property; it also is to teach and abet crime and unlawful methods of terrorism. It was not necessary for the prosecution to show that the elements of criminal syndicalism were advocated or taught with the precision of statement required in indictments for criminal acts involved.[1] The purpose and probable effect of the printed matter circulated and of the things said in furtherance of the declared purposes of the organization are to be considered having regard to the capacity and circumstances of the persons sought to be influenced. When there is taken into account the evidence referred to and the parts of the charge preceding and following the part of the charge here assailed—and especially the giving and reiteration of the statutory language defining sabotage—it is quite apparent that the instruction was not erroneous.

Both sides have dealt with the case here as if the question were properly raised, and we have considered its merits.[2] But, after examining the record, we think plaintiff in error failed to make any objection or effectively to take exception to the charge complained of. The exception there indicated did not call the court's attention to the instruction now attacked. It was general in form, and applied to the series of statements that followed it, covering about two pages of the record. Plaintiff in error does not contend that all of them are erroneous, and obviously they are not. The rule is well established that, where a series of instructions are excepted to in mass, the exception will be overruled, if any one of them is correct.[3] Exceptions to a charge

[1] See *Wong Tai* v. *United States*, 273 U. S. ——, 47 S. Ct. 300, 71 L. Ed. ——, decided January 3, 1927.

[2] *McNitt* v. *Turner*, 16 Wall. 352, 362, 21 L. Ed. 341; *Baltimore & Potomac Railroad* v. *Mackey*, 157 U. S. 72, 86, 15 S. Ct. 491, 39 L. Ed. 624; *Norfolk & W. R. Co.* v. *Earnest*, 229 U. S. 114, 33 S. Ct. 654, 57 L. Ed. 1096, Ann. Cas. 1914C, 172; Cf. *West* v. *Rutledge Timber Co.*, 244 U. S. 90, 99, 100, 37 S. Ct. 587, 61 L. Ed. 1010.

[3] *Johnston* v. *Jones*, 1 Black, 209, 220, 17 L. Ed. 117; *Beaver* v. *Taylor*, 93 U. S. 46, 54, 23 L. Ed. 797; *McDermott* v. *Severe*, 202 U. S. 600, 610, 26 S. Ct. 709, 50 L. Ed. 1162.

must be specifically made, in order to give the court opportunity then and there to correct errors and omissions, if any.[1] Even if some of the instructions were erroneous, the exceptions taken were not such as to require a new trial.

2. Plaintiff in error complains of another part of the charge:

> There has been evidence here that advertisements were published in the official organs of the Industrial Workers of the World, what they call also stickerettes, calling upon people to boycott the entire state of California and its products. That would only be legal in the event that it was in furtherance of a strike, and by "legal" I mean as established by the state of California; that is to say, if it was in furtherance of a strike, if it was in good faith, an attempt to better their conditions, and if it did not indulge in maliciousness or misrepresentation. If, however, you should find from the evidence that that was not so, then it would be an illegal boycott and you could take it into consideration in determining the facts of this case.

The record does not contain all the evidence, and fails to show that it includes all relating to the matter referred to in this instruction. We think it cannot be said as a matter of law that the things there mentioned, when taken in connection with other facts, may not have been proper for consideration in connection with some element of the criminal syndicalism charged. Moreover, no objection was made or exception properly taken to that part of the charge. Here again the exception failed specifically to point out the instruction now assailed as erroneous.

Judgment affirmed.

Mr. Justice Brandeis dissented.[2]

1. Was it to the public advantage that "criminal syndicalism" be suppressed?

2. Is the practice of sabotage to the advantage of the working class? To the worker participating in the act?

3. Compare the two mottoes "A fair day's wages for a fair day's work" and "Abolition of the wage system."

[1] *Pennsylvania R. Co.* v. *Minds,* 250 U. S. 368, 375, 39 S. Ct. 531, 63 L. Ed. 1039, and cases cited; *Allis* v. *United States,* 155 U. S. 117, 122, 15 S. Ct. 36, 39 L. Ed. 91.

[2] Dissenting opinion omitted here.

INDEX

INDEX

(*See also* Table of Contents, pages v to viii; and List of Cases, pages ix to xvii.)

A

Abilities
  required in employees 12, 13, 14-19, 404-408, 408-413, 422-424, 468
  required in managers 42-48, 377-381, 385-388
Abstinence, in maintenance of capital 358
Accidents, compensation for 444
Advances of wages to laborers 422
Advertising 73, 77-81, 82, 83, 135
  unfair methods 525, 528
Agencies for industrial peace
  see List of Cases, ch. xxix
Agricultural land
  cooperative marketing 74-81
  corporate management 319-329
  diminishing returns 308
  "economic unit" 322-328
  inframarginal 320
  promotion project 312
  scale of operations 319-329
  submarginal 319
  under Russian socialism 644-646
  see also List of Cases, ch. xxi
Agricultural loans, by bank 218
Alabama-Georgia Syrup Company 556
Alabama Power Company 598
Amalgamated Clothing Workers' Union 431
American Can Company, alleged monopoly 487
American Management Association 117
American Review of Reviews 616
American Telephone and Telegraph Company 63
American Tobacco Company, dissolution decree 506
Annuity, provided by pension plan 463-466
Anti-Trust Act, 1890 487, 507, 520, 521, 523, 524
Apprentices, supply and training 408
Arbitrage, in foreign exchange 287, 289
Arbitration of labor disputes 367, 431
Assessments on property benefited by public improvements 618
Assignats 180-184
Association of Real Estate Boards, report on residential rents 622, 623
Atchison, Topeka, and Santa Fe Railway Company 550, 563
Atlantic Coastline Railway Company 556
Aulard, A. 181
Automobile industry 20, 42, 83, 117

B

Bache, J. S. 617
Balance of payments
  gold shipments in international trade 286
  see also List of Cases, ch. xviii
Balance of trade
  Colombia 265
  see also List of Cases, ch. xviii
Baldwin Locomotive Company 61
Bank clearings, relation to pig iron output 256-258
Bank notes
  profit on issue of national 231, 232
  speculative issues 223
  see also List of Cases, chs. x, xv
Bank of England, coinage and gold standard 178
Bank of France, government borrowings from 180-186
Banking
  agricultural loans 218
  arbitrage transaction 289
  discounting bills of exchange 283
  discounting customers' notes 204, 241-250
  exporting gold bullion 286
  financing exports 283-286
  investment policy 213
  personal factors in loans 210
  relation to business cycle 241-250
  relation to open market 206-209
  savings deposits 202-204
  Suffolk redemption system 222-226
  type of charter 226
  use of bank credit by manufacturer 206-209
  variations in loans and discounts, and deposits 241-250
  see also Investment banking; List of Cases, chs. xiv, xv, xvi, xix
Banking systems
  Federal Reserve 226-250
  National Banking Acts, 1863, 1864 225
  prior to National Banking Act 222-226
Barnes *v.* Berry 425
Beech-Nut Packing Company 515
Bell Telephone Securities Company 63
Bethlehem Steel Corporation 250
Bills of Exchange
  demand and supply 286, 287
  to finance exports 283-286
  see also List of Cases, ch. xix
Bimetallism
  see also List of Cases, ch. xi
Black, John D. 2
  see also references beginning each chapter
Blair, A. W. 308
Bonds
  as bank investment 213-218
  corporation, types 52, 55
  government, tax-exemption 604-613
  income contrasted with dividends on stock 197
  listing on stock exchange 56
  rights of holders after insolvency 394-397
  stabilization of income and value 196
Boston Evening Transcript 61, 87, 159
Boston Manufacturing Company, founding of 5
Boston Traveler 155
Bradley, Albert 117
Branch banking, state and national banks 226-233
Brazil, cotton goods export to 305
British Trade Union Delegation, report on Russia 639
Broker
  commercial paper 207-209
  grain exchange 371, 373
  stock exchange 57
Brotherhood of Locomotive Engineers 312
Buck, Norman S. 2
  see also references beginning each chapter
Buildings
  construction of
    apartment 341
    office 332
    residence 312
    retail store 330
    warehouse 337
Bullock, Charles J. 268, 287
Bureau of Labor Statistics 189, 198-200

Burns *v.* United States 651
Business and Government
see List of Cases, Book VII
Business conditions
analysis by Federal Reserve Bank 234-240
see also Business cycle
Business cycle
effect of depression on wages 470-483
relation to commercial banking 241-250
relation to steel industry 250-258
see also List of Cases, ch. xvi
Business ethics
in stock operations 61-63
see also List of Cases, chs. xxxi, xxxii
Business executives, methods of payment 385
Business fluctuations
see Business cycle
Business, organization of
see Contents, Book I
Business profits
see List of Cases, ch. xxv
Bye, Raymond T. 2
see also references beginning each chapter
By-product, pricing and marketing 130, 132, 300

C

California Criminal Syndicalism Act 651
California Fruit Growers Exchange, sales policy 74
Call loans, for security operations 58
Canada, sales tax in 615-618
Candy
curtailed demand for 73
scale of operations in manufacture 28
Canning industry
monopoly in 487
use of machinery in 353, 487-507
Capital
"abstinence" to maintain 358
items in balance of trade 277-279
methods of obtaining 42-48, 49, 52, 63, 536
taxation of 626-628
see also Capitalism; Socialism; List of Cases, ch. xxiv
Capital stock
acquisition of one railroad's by another railroad 566, 571
common 52
corporation, characteristics 51
dividends contrasted with bond income 197
fair return to investors 539
listing on stock exchange 56
loss of income from 388-397
ownership by employees 635
preferred 52
sale to customers of public utility company 63, 536
sale to employees 457
sale to executives 385
transactions in 55-61
Capitalism, revolutionary movement against
Russia 639
United States 653
Capper, Arthur 375
Carpentry, division of labor in 10-12
Cates, J. S. 311
Cattle, bank loans on 219
Cement, Tolenas & Tidewater Railroad Company 582
Chicago Board of Trade 370
China
foreign exchange transaction 289
imports from
cotton goods 263-264
egg products 303-305
silk goods 263-264
market for silver bullion 164, 263-264
Chinaware 142
Cinematograph industry, royalties in the United States 276
Cities and towns
development of new 312-319, 398, 466, 635-636
municipal ownership of industry 87, 544, 587
taxation 89, 607-608, 618, 619, 620
Clay, Henry 2
see also references beginning each chapter
Clearing house
New York Clearing House Association 243
resemblance to Suffolk redemption system 226
Cleveland, City of, street-railway plan 592-593
Closed shop 425, 442
Clothing industry
labor problems 367, 431
pricing 91
scale of operations 367-369
style factor in production 81
Coal, price policy of mine 346
Coffee
Brazil 265
Colombia 264-266
imports, United States 266
Coinage
Bank of England 178
see also List of Cases, chs. x, xi
Coke, by-product production 132
Cold storage, relation to price changes 110-116
Colombia, exports to 264
Combination
automobile industry 42
commercial banking 226
copper mines 348
in restraint of trade
see List of Cases, chs. xxxi, xxxii
railroads 566, 571
steel industry 35, 125, 507
see also List of Cases, ch. xxxi
Commercial & Financial Chronicle 170, 172, 243
Commercial banking
see List of Cases, chs. xiv, xv, xvi, xix
Commercial paper
as means of financing 207-209
note-brokers 207-209
Commodity exchange, grain operations 370-376
Communism
Russian experience with 639-651
successful experiment, United States 630
Company town, development of 398-404, 466, 635-636
Comparative costs
Brazilian textiles 305
Chinese egg products 303-305
German toys 293-294
investigation by tariff commission
German methanol 295-303
pig-iron 102-109
Philippine products 259-264
Competition
causing improved service 72
fair and unfair
see List of Cases, chs. xxxi, xxxii
in public service industries
see List of Cases, chs. xxxiii-xxxvi
lack of, effect on prices 142-145
restraint of
see List of Cases, chs. ix, xxxi, xxxii
Competitive system
see List of Cases, chs xxv, xxxi, xxxii, xxxvi, xxxviii
Comptroller of currency, on national banks 230, 231
Confectionery industry, size of establishments 30
Consolidation of railway properties 576-582
Cooperative Marketing Association 74

Coordination of supply and demand
see List of Cases, ch. vii
Copper, consolidation of mines 348
"Corner," investigation concerning 61, 62
Corporation, as form of business unit 49-52
Cost of living, relation of wages to 429-431, 470-483, 631-635
Cost of production
and "expenses" 91
computed for joint products 130-132
cost curve
indirect costs in single plant 95-101
pig iron producers 107, 108
domestic, lowered by foreign sales 306
exchanging data on 507-514
in water company operation 544-546
increasing in potato growing 308-312
relation to selling price 23-27, 28-31, 32-34, 71-72, 74-80, 90, 91, 95-102, 102-109, 128, 129, 470-483
see also List of Cases, vii, viii, ix
supplementary, classification of 96-101
varying
in clothing industry 367-369
in copper mining 348-352
in steel industry 102-109, 125-129
with quantities produced 95-102
see also Comparative costs; Joint costs; List of Cases, chs. vi-viii
Cotton, early cultivation in South 5-9
Cotton gin, Eli Whitney's 7
Country Gentleman 311
Credit
banking 206
commercial 206, 209
Crum, W. L. 241, 250, 253
Currency
see List of Cases, chs. x-xii
Customer ownership, public service industry 63-68, 536-539

D

Dayton–Goose Creek Railway Company, "recapture" of earnings 583-584
Demand
analysis of 71
effect of change on joint cost of products 132
elasticity 71-73, 74, 81
seasonal 81, 110, 117-125
see also Joint demand; Contents, Book II, and especially chs. v, vii, viii
Depositors, borrowing from banks 206-213, 218, 241-249
Deposits, bank
see List of Cases, chs. xiv-xvi
Depreciated currency
England 176, 291
France 180
Germany 293
United States 156, 167, 222
"Depreciated dollar" 197
Depreciation
allowance for 337, 339, 340, 357, 391
as fixed expense 100
gold mining equipment 175
Detroit, City of, municipal ownership in 587
Diminishing returns, in potato growing 308-312
Discount, bank computation 204
Distribution of income
see Contents, Book V
Dividends
see Capital stock
Division of labor
geographical
see List of Cases, chs. xvii, xx
see also List of Cases, ch. i
Dodge City & Cimarron Valley Railway Company 563
Dorchy *v.* State of Kansas 440
Drafts
see Bills of exchange
Drug business
manufacturers' trade names 528
wholesale 337
"Dumping," in international trade 306, 307
Dwellings, rentals 341-345, 466, 622-623

E

Eastern Association of Pig Iron Manufacturers 102
Edie, Lionel D. 2
see also references beginning each chapter
Egg products, in international trade 303
Eggs, production and prices 110-116
Electrical apparatus
invention 145
manufacture 416
Ely, Richard T. 2
see also references beginning each chapter
Embroideries, importation 259
Employee housing, rental and sale policies 400, 466, 467, 636
Employee representation
jurisdiction of representatives 483-486
wage negotiations 470
Employees
hiring 14
promotion 422
Employee stock ownership 457, 635
Employers' association, agreement with labor unions 431-439
Encyclopaedia Brittanica 140
England
foreign exchange rates 291-293
influence on colonial manufactures 5-8
return to gold standard 176
see also Bank of England
"Expenses of production," relation to cost of production 91
Exports
see Balance of payments; International trade

F

Factory system, early development 5-10
Fair return
on investment in public utility 539-543
on railroad property 582-586
relation to cost of service 544-546
Fairchild, Fred R. 2
see also references beginning each chapter
Fairway Farms 319
Farmers, bank loans to 218-221
Farming
see Agricultural land
"Favorable balance of trade" 269
Federal Power Commission 598
Federal Reserve Bank, Boston, changes in discount rate 233-240
Federal Reserve Bank, New York, operations 236, 238, 240
Federal Reserve Board, membership 233
Federal Reserve notes and bank notes 161, 162, 171, 230, 232, 233
Federal Reserve system
gold reserve 171
rediscount rate policy 233-240
relation to balance of trade 282
relation to business cycle 241-250
relation to speculation
in commodities 238
in securities 238
Secretary of the Treasury on statement of condition 229, 230
Federal Trade Commission 125, 515, 525, 600

Fertilizer, relation to agricultural returns 308-312
Fiat money 180
Fisher, Irving 513
  on changes in purchasing power 197
Fishing industry 381
Florida
  inheritance taxation 625
  land boom 312
Flour manufacture, hedging in 377
Ford, Henry 84
Ford Motor Company 83
Forecasting, method of 190-196
Foreign exchange
  arbitrage 287, 289
  effects on currency inflation 185
  gold standard countries 179
  rate quoted 289, 290-291
  relation to export prices 291-293
  see also List of Cases, chs. xii, xviii, xix
Foreign loans 277-282
Foreign trade
  see International trade
Forests, depletion and reforestation 87-90
Foundry work, training of apprentices 408
France
  bimetallism 163
  business and financial statistics 182, 183
  paper money in 180
Franchise, in public service industry 533-534
Free trade
  see Tariff
Freight rates
  see Railroads—rates
Furniss, Edgar S. 2
  see also references beginning each chapter
Futures in grain transactions 371-376

G

"Gambling" in connection with
  grain 375
  securities 63
Garfield National Bank 241
Gary, E. H. 477
  "dinners" 507
Gas, coal- and water- 132
General level of prices
  see List of Cases, ch. xiii
  see also Prices—general level
General Motors Corporation 42, 117
Germany
  as "principal competing country" 289, 299
  depreciated currency and foreign exchange 293
Gide, Charles 2
  see also references beginning each chapter
Glass industry, hand labor replaced by machinery 413
Gold
  bonus on production 169
  export from England 176, 177
  export of bullion 286-287
  French imports 164
  market ratio to silver 157
  mining operations 169
  payment of government obligations 167
  price at United States mint 169
  supply and demand 171, 176
  tax on articles containing 170
  world production 171, 175
  see also Balance of trade; Gold standard
Gold mine, operations of 169
Gold standard
  departure from 180
  elements 172, 175, 177
  resumption by England 176, 293
  see also List of Cases, ch. xi
Government and business
  see Contents, Book VII
Government debts
  financing
    see List of Cases, ch. xxxvii
  payment in coin 167
Government expenditure 609-613
  relation to balance of trade 274, 275
Government ownership
  Russian experiments with 639-651
  see also List of Cases, chs. xxxvi, xxxviii
Government receipts 600-613
  relation to balance of trade 274, 275
Grain trade, organized market in 370-376
Grocery business
  chain store 32
  price maintenance 515
  wholesale 377

H

Hadley, A. T., oyster case 547
Hamilton, Alexander, proposals for coinage 156, 157
Harris, H. A. 616
Harvard Bureau of Business Research 339
Harvard Business Review 241, 250
Hedging 374, 375
Hepburn, Barton 166
Hides, railroad rates 550-553
Hobson, J. A. 513
Hosiery, export 291
Hours of work
  eight-hour day 425, 470
  twelve-hour day 470
  union agreements concerning 425, 434
Housing
  see Dwellings; Employee housing; Real estate

I

Illinois Central System 356
Immigrants' remittances, in balance of payments 273
Imports
  income from duties on 301-303
  see also Balance of trade; International trade; Tariff
Income
  corporation 604, 606
  distribution of
    see Contents, Book V
  individual returns 602-605
  national, United States 600
Income tax 50, 51
  amounts, and changes 602-613
India, purchase of gold in 287-289
Industrial peace
  agencies for, in Oneida Community 630-639
  see also List of Cases, ch. xxix
Industrial Workers of the World 652, 654, 656
Inflation, currency 169-175, 180-186, 187, 291, 293
Insolvency, effect on stock- and bond-holders 388
Installment sales, to promote savings 362, 363
Insurance
  accident 444
  life 358
  marine 381
Integration
  horizontal
    automobile industry 42
    copper mining 348
  vertical
    chain store 32-34
    machinery manufacture 34-35
    steel industry 35-41
  see also Combination; Monopoly; Trust

Interchangeable parts, manufacture of 12-14
Interest
application for non-interest bearing loan 629
factor in Federal Reserve rediscount rate 233-240
on bonds as corporation expense 54
on foreign drafts 283
on installment sales 363-366
rates
on bank investments 213-221
on bank loans 204-221
on bonds, stabilized 196-201
rediscount, Federal Reserve banks 233-240
relation to business cycle 241
relation to balance of trade 275, 276, 282
tax-free on government obligations 604-613
time factor 87-89
see also List of Cases, ch. xxiv
International trade
imported and domestic pig iron 102-109
see also Contents, Book IV
Interstate Commerce Commission
created, 1887 550-551
opinions and functions 553, 556, 563, 566, 571, 582
Invention
and division of labor 5, 19
in early textile manufacture 6-10
new type locomotive 135
protection by patent 151
Investment
based on managerial ability 10
corporation 23, 34, 42-48, 353, 356, 388-397, 563, 582
fair return on
see Fair return
for future production 87-89
in agricultural land 312, 319
in securities 55, 358-363, 388-397
in urban real estate 332, 338, 341
interest on, as cost 299
of individual's savings 358
policy for national bank 213
Investment bankers
corporation financing 52, 63-68, 388-397, 536-543
promoting savings 362
real estate financing 341
recommendations to commercial bank 213
Investments, influenced by varying purchasing power 196-201
Investors
"flight from the franc" 181
sale of securities to 5, 52, 54, 55, 65, 66, 362, 536
Iron Age 251, 478

J

Japan, silk imports from 263-264
Joint cost
pricing by-products 132
railroad rates 547
relation to price 130, 132, 299-300
see also List of Cases, ch. viii
Joint demand
fixing supply prices 135-139
see also List of Cases, ch. viii
Journal of Land & Public Utility Economics 319
Journal of Political Economy 630

L

Labor, division of
see Division of labor
Labor participation in management
see List of Cases, ch. xxx
Labor problems
see Contents, Book VI
Labor-saving machinery
candy making 29-31
export 266
glass industry 413
in factory system 5-10
Labor supply
see Supply of labor
Labor unions
agreement with employers' association 431-439
agreement with, not in restraint of trade 413
contract with employers 425, 431
injunction to prevent strikes 425
organizing of workers 432, 433
protest against subcontracting 367
relation to employee representation 483-486
right to strike 440
union label on manufactured product 442
wage protest 429
see also List of Cases, ch. xxviii
Land
see Agricultural land; Urban land
Lang, Emil 311
Large-scale operations
automobile industry 42-48
chain stores, grocery 32
confectionery industry 28
management problems 42
steel industry 35-42
Laughlin, J. Lawrence 269
League of Nations, publication quoted 268-270
Life insurance, as method of saving 358
Lilly, Eli, & Company 528
Linderman, H. R. 164
Localization of industry
see List of Cases, ch. ii
Location
selecting, for new plant 20, 23
see also Site
Locomotives, new type 135
London Economist 627
Losses
in fishing operations 381
in manufacturing operations 45-47
in shipping operations 388-397
in wholesale transactions 377
relation to profit sharing 456
Lowenthal, Esther 630
Lumber, providing for future production 87

M

MacCurdy, Rahno Mabel 74, 76
Machinery
conditions inducing invention 5, 19
household use 7
in development of factory system 5-10
replacing hand labor 5-10, 413-415
Maple Flooring Manufacturers' Association 507
Marginal land
see Agricultural land
"Marginal producer," copper mine 352
Marketing facilities influencing plant location 20, 23
Markets
see List of Cases, ch. vii
see also Chicago Board of Trade; New York Curb Market; New York Stock Exchange
Marshall, Alfred 2
see also references beginning each chapter
Marshall, L. C. 513
McFadden, L. T. 170
Methanol, import duty and production 295
Milwaukee, City of 544
Mines
coal 346
copper 348
gold 169-176
see also List of Cases, ch. xxiii
Minimum wage, output requirements 468

Mint Act, 1792 156
Money
purchasing power 169-176, 196-201
see also List of Cases, chs. x, xi, xii
Money and banking
see Contents, Book III
Money market, New York 238, 240, 241-250
Monopoly
relation to competition 144
see also List of Cases, chs. ix, xxxi, xxxii
Municipal finance
assessments for public improvements 618
bond issues 607-608
sources of revenue 619, 620
Municipal ownership
see List of Cases, ch. xxxvi

N

National Association of Building Owners and Managers 332
National Association of Window Glass Manufacturers 413
National banking system
acts of 1863, 1864 225
relation to balance of trade 282
National banks
compared with state banks 226-233
relation to business cycle 241-250
report of condition 217, 218
National Bureau of Economic Research 601
National income in United States 600
National Retail Dry Goods Association 614
National wealth, relation to borrowing 209
New Jersey Board of Public Utility Commissioners 539
New York City, money market, and business cycles 241-250
New York Stock Exchange
investigation of "corner" 61-63
operations 55-61, 65-67
New York Times 375
New Zealand, taxation of capital 627, 628
Nickel Plate Unification 571-582
Noncompeting groups, promotion of workman 422-424
Norfolk Hide and Metal Company 550
Note issue
Federal Reserve
see Federal Reserve notes and bank notes
inflation 180-186
national banks' profits from 231-233
speculative 222-225

O

Obsolescence on office building 332-337
Occupations of United States population 601
Ocean freights
decline in rates 388-397
in balance of payments 268-282
Office buildings, sites for 332-337
Oil industry, price changes in 60, 61
Oneida Community, Ltd., labor policy 630
"Open market," commercial borrowing in 206-209
Open shop 425, 442
Organized commodity market, grain 370
Overproduction 258
and consumer demand 117
Ownership of business
see List of Cases, chs. iv, xxxvi, xxxviii

P

Paper money
foreign exchange rates 291-293
in balance of payments 272
see also List of Cases, ch. xii
Partnership as form of business unit 49-52
Patent 151-154
Paternalism toward company employees 402, 403
Pennsylvania Railroad Company 553
Pensions for employees 460-466
Persons, Warren M. 245, 247, 254
Pig iron
domestic and foreign costs 102-109
production and business cycle 250-258
Philadelphia, City of, assessments for public improvements 618
Pipes, pipe fittings, and tools, manufacture of 23
Pittsburgh "Basing Point System" 125
Potatoes, diminishing returns from 308
Pottery, application for state aid 629
Power
electric, in clothing manufacture 367
experimental use in early factory 5-10
water, development 598
Preferential shop 425
President of United States, powers in raising import duties 300-303
Price
relation of rent to 340, 348, 352
relation to cost
see Cost of production
relation to joint cost 130
relation to joint demand 135-139
see also Contents, Book II
Price fixing
by trust 501-503
"Gary dinners" 507
Price index
computations 187-201
Dow-Jones, industrial stocks 57, 58, 59
Price maintenance
absence in trade association 509
as unfair competition 515-525
Prices
and business cycle 248
general level of
effects of wars 176, 187, 190, 194
measurement of variations
see Price index
relation of Federal Reserve System to 233-240
relation to currency inflation 180-190
gold standard 169-176
government expenditure 611-612
income from securities 196-201
paper money 180-186
railroad valuation 586
wages 429-431, 470-483
see also List of Cases, chs. xiii, xvi
Printers' Ink 77, 617
Printing industry, agreement with labor union 425
Private ownership
contrasted with municipal 587-598
relation to Russian state ownership 639-651
Private property, inheritance tax on 624-626
Producer's good, pricing 145-154
Productivity of labor
group piece rates to increase 420-422
increased by division of labor 3
relation to minimum wage law 468
relation to wage system 485-486
under socialism and communism 639-651
wage plan to increase 416
Profit sharing
with employees 447, 635
with executives 387, 388
Profits
basis of bank loans 210
from farm operation 321
from increased street railway fares 533-536
relation to balance of trade 275, 276
see also List of Cases, ch. xxv

Proprietorship as form of business unit 49-52
Protection
see Tariff
Public finance
see List of Cases, ch. xxxvii
Public service industry
financing 63-68
municipal ownership in 544, 587
price for by-product 132
service at cost 587-598
see also List of Cases, chs. xxxiii, xxxiv, xxxv; Public Utility Commission
Public Utility Commission
approval of street railway fares 533
determining a fair return 539-543
water rates 544
see also Interstate Commerce Commission; Public service industry
Purchasing power
local curtailment 73
relation to monetary system 169-176
relation to price level 196-201
variations influencing investments 196-201
"Putting-out system," in textile industry 5, 7

Q

Quarterly Journal of Economics 388

R

Railroads
construction, "present and future public convenience and necessity" 565
investment in 584
rates
commodities
hides 550
silicate 558
silk 553
syrup 556
determining "reasonable" 550-553, 553-556, 556-558
discrimination between shippers 548
discrimination between shipping points 547
influence on plant location 27
manufacturer's negotiations 558-562
noncompetitive 558
"proportional" 557
relation to operating costs 547, 571
relation to valuation of railroad 582-586
"what the traffic will bear" 547-548, 556
see also List of Cases, chs. xxxiv, xxxv
Railway operating income, growth of 584
Rand Kardex Company 196
Rate of output
adjusted to seasonal demand 117-125
effect on cost of production 95-102
Real estate
assessments for public improvements 618-624
taxation of transactions 626-628
see also List of Cases, ch. xxii
Rebates
in trust's operation 500-501
railroad 548
"Recapture" of railroad earnings 583
Reforestation 87
Relative prices
see Price index
Rent
taxation 622-624
see also List of Cases, chs. xxi, xxii, xxiii
Rent of mines
gold mine 169-176
see also List of Cases, ch. xxiii
Rental
as item of expense 339-340
estimates of 343-345
for company-owned houses 467
of railway property 563, 566, 571
Reproduction cost, relation to fair return
railroad property 582-586
telephone company 542
Resourcefulness of employees in making interchangeable parts 14
Retail trade
department store price policy 69
installment sales 363
store location 330
Revenue Act
1921 626, 627
1924 626-628
1926 609, 611, 625
Review of Economic Statistics 245, 247, 256, 258, 268, 287
Richmond, New Hampshire 87
Risk
see Accidents; Insurance; Profits; Losses; Speculation
Rochester Men's Clothing Industry 431
Rubber products
shoes 90, 206
tires and tubes 14-19
Rufener, Louis A. 2
see also references beginning each chapter
Russia, experiments with socialism 639-651

S

Sabotage, criminal aspects 651-656
Salaries, managerial 385-388, 397
Sales tax, proposals for 614
Savings
bank deposits 202
see also Investment
Saws 385
Scale of operations
expenses under varying rates of output 95
in farming 319-328
in women's clothing 367
see also Large-scale production; List of Cases, ch. iii
Seager, Henry R. 2
see also references beginning each chapter
Seasonal influences
measurement of 254, 255
on supply and demand 74-81, 81-83, 95, 110-116, 117-125
Secretary of the Treasury
Annual Report
1876 167
1926 229, 609
National Banking Acts of 1863, 1864 225
Securities
see Bonds; Capital stock; Speculation
Seligman, Edwin R. A. 2
see also references beginning each chapter
Sherman Act
see Anti-Trust Act
Shipping industry 388-397
Ships, insurance against loss 381
Shopping district, retail store sites 330
Shopping goods 332
Short sale 58, 63, 373
Silk
importation 263, 264
railroad rates 553
Silk Association of America 553
Silver
French imports and exports 163, 164
market ratio to gold 157
price as factor in foreign exchange 291
use in Oriental currency 164, 289
see also Bimetallism
Silverware, cooperative manufacture 630-639
Simplex Wire and Cable Company 447
Site
for apartment building 341-345
factory 23-27

Site (*continued*)
for office building 332-337
retail store 330
warehouse 338
Size of establishments
canning industry 487-507
clothing industry 367
confectionery industry 30
steel industry 35, 36
Sloan, Alfred, P., Jr. 117
Smith, Adam, on division of labor 3
Socialism
see List of Cases, ch. xxxviii
South America, trade of United States with 267
Speakman, A. W. 616
Speare, C. F. 269
Special parts, separate department for 12-14
Specialization
see Division of labor; Localization of industry
Speculation
farm development 317
Federal Reserve System, and 238
grain market 370-377
New York Stock Exchange 61-63
securities 58-61
sugar purchases 377-381
Spillman, W. J. 311
Sprague, O. M. W. 244
Stabilization
bond income and values 196-201
of currency, effect on business 185-186
Standard of living, desirability of improvement 404
Standard Oil Company
dissolution decree 506
freight rebates 548-550
Standardization of output
Ford automobiles 83-86
lacking in carpentry 11
machine parts 12-14
tire making 17
women's clothing 81
State banks
compared with national banks 226-233
early developments 222-226
Steel industry
"barometer of trade" 253
combination in 35-42, 125, 507
prices and costs 102-109, 125-129, 507
relation to business cycle 250-258
scale of operations 35-42
"steel-works" and "merchant" furnaces 109, 250
wage problems 470-483
Stock
see Capital stock
Stock ownership
by company officials 386
by employees 457-460, 635
Straus, S. W., & Company, financing apartment building 341
Street railways
fare increase 533-536
franchises 533
Strikes
in clothing industry 432
injunction to prevent 425-428
right to strike 440
Style
change affecting imports 262-264
factor in consumer demand 81
Suffolk Bank of Boston, redemption system 222-226
Sugar, speculative purchases 377
Supplementary costs 92, 95
Supplementary industry
automotive industry 20
box toe manufacture 10
foundry 34
Supply and demand
see Contents, Book II
Supply of labor
relation to capital equipment 356
see also List of Cases, ch. xxvi
Supply price, computation of 90, 91, 91-95, 95-102, 102-109
Survey of Current Business 378
Syndicalism, criminal 651
Syrup, freight rates 556

T

Taine, H. A. 180
Tanning industry 404
Tariff
agitation for revision 294
customs duties collected 302
early discussions 9
investigation concerning duty on pig iron 102
see also List of Cases, ch. xx
Tariff Act of 1922, provision for increasing duties 295-303
Taussig, F. W. 2, 388
see also references beginning each chapter
Tax-exempt securities 604-613
Tax systems of United States 600-613
Taxation
Canadian sales tax 615-618
project for reduction 89
proposed on gold articles 170
sources of municipal revenues 619, 624
see also List of Cases, ch. xxxvii
Taxicab business 71
Taylor, H. C. 320
Telephone companies
relation of rates to fair return 539-543
sale of securities 63
Textile industry
cotton export to Brazil 305
early inventions 5-10
South, manufacture contrasted with North 401, 402
supply of labor 398
Tourists' expenditures, in balance of payments 274
Toys, imports from Germany 294
Trade association not in restraint of commerce 507
Trade names
infringement on use of 528-532
misleading use of 525-528
Transportation
see List of Cases, chs. xxxiv, xxxv
Transportation Act, 1920
consolidation of railway properties 576-582
"recapture" provisions 583
Trust companies, advantages of 226-233
Trustees, investment operations 55
Trusts
dissolution decrees 506-507
see also List of Cases, ch. xxxi
Tucker, Rufus S. 268, 287
Turner, John R. 2
see also references beginning each chapter

U

Unemployment
and business cycle 241, 258, 470-483, 632
caused by seasonal style changes 82
Unfair competition
definition disputed 521-525
infringement on trade name 528
misleading labels 525
see also List of Cases, ch. xxxii
"Unfavorable Balance of Trade" 269, 282
Unionism
see List of Cases, ch. xxviii; *see also* Labor unions

United Garment Workers 432
United States Department of Agriculture 110
United States Steel Corporation
dissolution petition denied 507
formation of 35
"Gary Dinners" 507
not a monopoly 144
price policy 125
wage reductions 470-471, 474-478
United States Tariff Commission, investigations by 102, 295
Upholstery, export 283
Urban land
see List of Cases, ch. xxii
Urban rents 337-345, 622, 623
Utility
see List of Cases, ch. v

V

Valuation
office building 332-337
railroad property 582-586
see also Fair return; Reproduction cost
Vanderblue, H. B. 241, 253
Veneer 130

W

Wage system, abolition of, advocated 653
Wages
"advanced" to laborers 422
and business cycle 241, 258, 470-483, 632
apprentices 410-413
arbitration of disputes 431-439
effects of inflation on 631-633
factor in international trade 262, 263
"fair day's wage for fair day's work" 653, 656
for beginners 18-19
in cooperative enterprise 631-639
minimum wage law 468
"money" 422
negotiations by plant assembly 470
piece work 416, 420
profit sharing in addition to 447
protest by labor unions 429
"real" 422
relation of street railway fares to 533
relation to cost of living 429-431
system based on production standards 485
see also List of Cases, ch. xxxvii
Wall Street Journal 84, 85, 332
Walworth Manufacturing Company 23
Wars, effect on general level of prices 187, 190, 194
Warner, W. R., & Company 528
Water power
development under government license 598
for early textile machinery 5-10
Water rates 544
Western Clock Company, pension plan 460-466
Wheat
diminishing returns 312
prices 376
Wholesale prices, index of 193-195
Williams, John H. 268, 287
Wilson, M. L. 319
Winsted Hosiery Company 525
Wisconsin Railroad Commission 544
Women, industrial employment 404
Wool goods, misleading labels on 525
Wool merchants, bank loans to 210
Working conditions, improper 369
Workmen's Compensation Act, Massachusetts 444-447

Y

Young, Allyn A. 245, 246

ALPHABETICAL LIST OF CASES

Ajax Parts Co. 20
Alabama-Georgia Syrup Co. *v.* Atlantic Coast Line Railroad Co., *et al.* 556
Alabama Power Co. 598
Alden Coal Co. 346
Alden Steel Co. 470
Anglo-Asiatic Bank 289
Ardmore Machinery Co. 135
Arnold Wainwright Co. 353
Atlantic Fisheries Co. 381
Atlantis River Co. 34
Bacon, Roger, Co. 398
Barnes *v.* Berry 425
Beecher Saw Co. 385
Bell Tel. Securities Co. 63
Benton Cab Co. 71
Bethlehem Steel Corp. 250
Boston Mfg. Co. 5
Burns *v.* U. S. 651
California Fruit Growers Exch. 74
Capital 626
Castern Co. 259
Cement, Tolenas & Tidewater Railroad Co. 582
Chicago Board of Trade 370
Chillicothe Paper Box Co. 468
Chocolate Candy Co. 73
Clayton China Co. 142
Collington Co. 14
Crocker & Lang Veneer Co. 130
Dennis, Samuel 629
Detroit, Michigan 587
Devonshire Co. 377
Dodge City & Cimarron Valley Railway Co. 563
Dominion Trust Co. 202
Dorchy *v.* State of Kansas 440
Eastern Association of Pig Iron Mfrs. 102
Egg Production and Prices 110
Elfin Mining Co. 169
Elmore Co. 483
Encyclopaedia Brittannica, The 140
England 176
Fairway Farms 319
Farmers Exch. Bank 218
Federal Reserve Policy 233
Federal Trade Commission *v.* Beech-Nut Packing Co. 515
Federal Trade Commission *v.* Winsted Hosiery Co. 525
Ford Motor Co. 83
Fox Mills 91
France 163, 180
Gabler & Co. 330
Garfield National Bank 241
Garnette Co. 303
General Motors Corp. 42, 117
Griffin & Near 52
Hadley's, President, Oyster Case 547
Hamlen Upholstery Co. 283
Hanlin Dept. Store 69
Harnett Generator Co. 416
Hartwick Mining Co. 348
Herrishoff-MacGregor Chocolate Co. 28

Hulwin & Tompkins 305
Hunt, Robert L., Investor 358
Hutchinson Engineering Co. 12
Illinois Central System 356
Ilman Co. 367
Inheritance Tax 624
Kittell & Co. 388
Lakeside Street Railway Co. 533
Lamont Machinery Co. 264
Langley Co. 444
Lindley, Brandt & Flint 213
Loughredge Co. 55
MacBride Electric Co. 420
Mann Co. 442
Maple Flooring Mfrs. Association, *et al.*, *v.* United States 507
Mayo Co. 363
Methanol 295
Midwest Co. 206
Milwaukee, City of 544
Money 155
Moret Utilities Co. 536
National Association of Bldg. Owners & Mgrs. 332
National Association of Window Glass Mfrs. *et al.*, *v.* United States 413
Natka Gas Co. 132
Newille Co. 10
New Jersey Board of Public Utility Commissioners 539
New Jersey Potato Growers 308
New York Stock Exchange 61
Nickel Plate Unification 571
Norfolk Hide & Metal Co. *v.* Atchison, Topeka & Santa Fe Railway Co., *et al.* 550
Oneida Community, Ltd. 630
Ordway Bakery Co. 49
Perham Co. 95
Philadelphia, Pa. 618
Pittsburgh Basing Point System 125
Porter National Bank, The 286
Powhatan Valley Railroad 558
Quaboag Hosiery Co. 291
Radio Instrument Co. 145
Rand Kardex Co., Inc. 196
Richmond, New Hampshire 87
Rochester Men's Clothing Industry 431
Roger Bacon Co. 398
Russia 639
Sales Tax 614
Samoset Co. 81
Sapulpa Co. 293
Sharey Co. 404
Sheldon Chain-Store Co. 32
Silk Association of America *v.* Pennsylvania Railroad Co. 553
Simplex Wire & Cable Co. 447
Smith, Adam 3
Standard Oil Co. 548
Stound Eqpt. Co. 190
Straus, S. W., & Co. 340
Suffolk Bank of Boston 222
Sunman Co. 337
Tareyton Milling Co. 422
Thrasher Cotton Mills Co. 457
Trinity National Bank 226
Tristate Transit Co. 429
Truxford National Bank 210
Tuckerman Machinery Co. 408
Tuckson Mfg. Co. 187
United States 156, 159, 164, 167, 268, 600
United States Steel Corp. 35
United States *v.* American Can Co., *et al.* 487
Venice, Florida 312

Wainwright, Arnold, Co. 353
Walworth Mfg. Co. 23
Walworth Railroad 566
Western Clock Co. 460
William R. Warner & Co. *v.* Eli Lilly & Co. 528
Williamson Co. 466
Winchender Bank & Trust Co. 204
Wolper Co. 90

V283

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